



2013 LONG-RANGE LAND USE PLAN

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ACKNOWLEDGEMENTS

2001 Comprehensive Development Plan Steering Committee

Jo Scott (Chair)	Peter Jones (Vice-Chair)
Mark Brescia	Bob Burgess
Russ Charlton	Gail Cotterman
Nadine Daugherty	Michael Froning
Karl George	John Gibson
Russell Hill	Peter Land
Norma Landis	Stephen Liles
Charlie Schwegman	Tara Sira
Rich Studer	Randy Tischer
Cindy VanVliet	Jon Watterworth
Elizabeth White	Michael Pittman

2007 Update Ad-Hoc Advisory Group

Howard Ackerman	Charles Schwegman
Nadine Daugherty	Bill Schieman
Norma Landis	Craig Schmitt

2013 Update Ad-Hoc Advisory Group

Stephen Anderson, Executive Director, Greene County RPCC
Doug Betz
Judd Powell
Bill Schieman

2013 Sugar Creek Township Trustees

Michael Pittman, Chairperson
Scott Bryant, Vice-Chairperson
Nadine Daugherty, Trustee

2013 Sugar Creek Township Board of Zoning Commission

Bill Schieman, Chairperson
John Baldino, Vice-Chairperson
Doug Betz
Joan Gallagher
Donna Hellmann
Jeffrey Bennett, Alternate
Dave Schleich, Alternate

2013 Sugar Creek Township Administrator

Barry Tiffany

2013 Sugar Creek Township Director of Planning and Zoning

Cara Tilford, AICP



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INTRODUCTION

Every community is dynamic in nature, whether experiencing a decline in population or facing ever-expanding residential neighborhoods and business centers. Sugar Creek Township is no different in that there are numerous influences occurring in and around the township that have changed the community over the past and will continue to create forces that must be addressed. In order to plan for the future and to address the impacts of growth as they occur, Sugar Creek Township embarked upon a review of the 2007 Sugar Creek Township Comprehensive Development Plan Update to ensure that the township has a current plan with relevant land use, transportation and public facility elements.

The 2007 Comprehensive Plan Update process determined that the core elements and goals of the 2001 plan, which were developed through an extensive planning effort, were fundamentally intact. The update incorporated the desire of the township to take the goals one step further by providing for and encouraging the development of conservation subdivisions, which allow the same densities as a typical subdivision but where 50 percent or more of the site is preserved as open space. In particular, the township wanted to strongly encourage conservation subdivisions in northern areas of the township where there existed sufficient water and sewer services as well as significant pressure to develop large-scale housing developments.

In 2001, the township adopted the original comprehensive development plan with several overarching goals based on significant public input. These goals, outlined below, continue today and remain the basis behind the 2013 Sugar Creek Township Long-Range Land Use Plan.

- Retain the rural character of the township;
- Manage the pace and quality of future development in accordance with all the other goals of this plan;
- Protect key assets within the township;
- Retain viable agriculture;
- Provide viable strategies for the preservation of open space;
- Manage transportation demands and conflicts;
- Provide criteria and guidance for future infrastructure and public facility development;
- Provide for the protection of important environmental and natural resources;
- Plan for recreational areas; and
- Protect the geographic boundaries of Sugar Creek Township.



The specific goals of the 2013 plan update include:



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- Review the fundamental goals of the 2001 Plan to verify continued relevance given current economic conditions;
- Update the Planning Trends and Land Capacity Analysis to ensure their continued applicability; and
- Complete a detailed evaluation of the Planning Areas in light of heightened annexation threats.

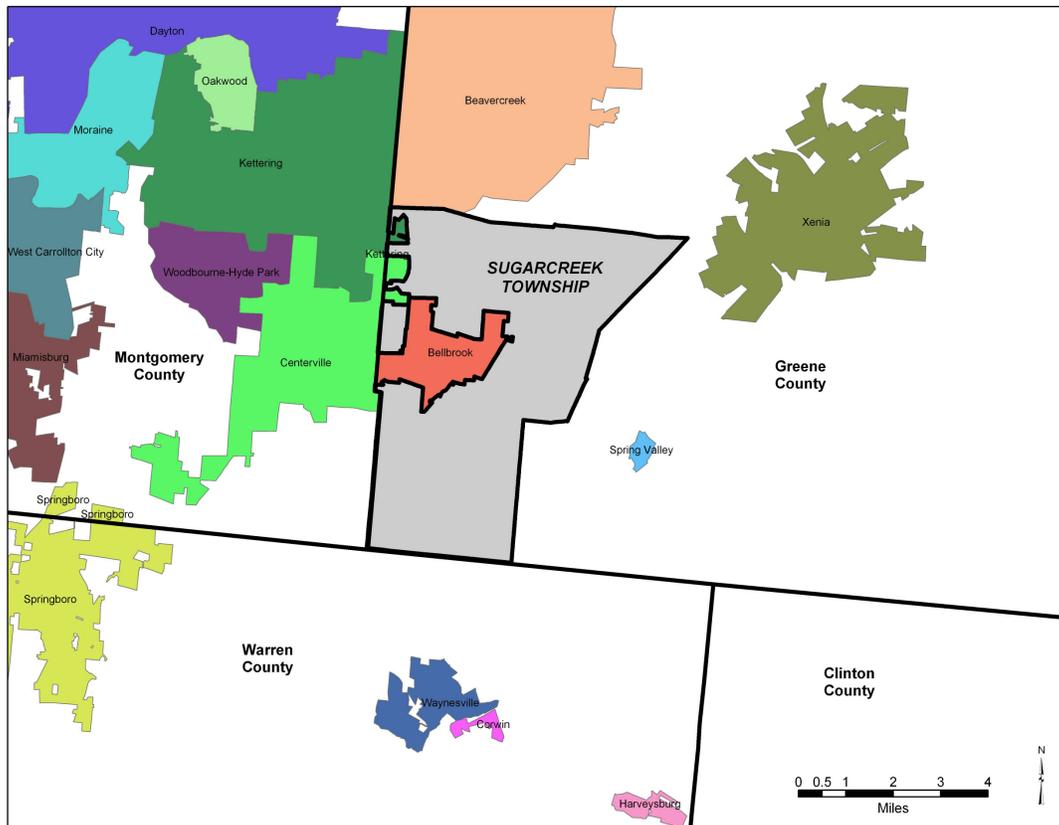
With this update, this plan will continue to serve as a guide for the public and the decision-making bodies of Sugar Creek Township.

The fundamental concepts embodied in this plan are twofold. First, as development occurs in the coming 20 years, the inherently attractive rural character of the township should be retained and protected. Second, development should be arranged to minimize the costs associated with the delivery of public services and capital investment in infrastructure, thereby protecting the interest of the taxpayer and the fiscal health of the township.

Planning Influences

Sugar Creek Township is located in the southwest corner of Greene County on the southeast fringe of the urbanized area surrounding Dayton. Over the last half century, the urbanized land area around Dayton has been steadily growing outward leading to increased development pressures on Sugar Creek Township.

While Dayton drives the regional growth that is now influencing Sugar Creek Township, Map 1 shows that the cities of Kettering, Centerville, Beavercreek and Bellbrook have the most immediate influence on the township. Several properties have been annexed to the Cities of Kettering and Centerville in the recent past with the most significant annexation activity occurring along Wilmington Pike, the township's western border and primary nonresidential activity center.



Map 1: Sugarcreek Township Vicinity Map

As a township in Ohio, Sugarcreek Township is bound by state statutes established in Title Five of the Ohio Revised Code (ORC). These statutes define the number of elected officials, the roles of the officials, and the authority of the township over zoning, cemeteries, local roads (primarily residential roads), and other jurisdictions. As it relates to this plan, Chapter 519 of the ORC allows the township to prepare plans and a zoning resolution to address development in the township but the authority for subdivision control, county roads, and utilities, all fall outside of the authority of the township. Even though a township has the authority to adopt township zoning regulations, ORC Section 519.02 limits these regulations by defining what and how townships can regulate land uses and buildings. For example, townships have the authority to institute architectural guidelines for nonresidential uses; however, those regulations may not include regulations on exterior building materials. This has led to some difficulties in defining and controlling growth (beyond basic zoning of densities, uses, and bulk) to the fullest extent desired by the township but through the use of solid planning principles, the township continues to maintain high levels of service and a desired quality of life with the planning and zoning authority they currently maintain.

History of Planning in Sugarcreek Township

In 1954, Sugarcreek Township assumed the responsibility for administering its own planning and zoning functions as provided for in the ORC. The township trustees appointed a township zoning commission and the first township zoning resolution was adopted.



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In 1974, a Sugar Creek Township Comprehensive Plan was completed by the Miami Valley Regional Planning Commission. This plan addressed both the township and the City of Bellbrook. In that same year, the Bellbrook-Sugar Creek Township Park District was established. Since its establishment, the park district has acquired and developed 13 parks to date in addition to those parks developed by Greene County. In 2012, voters approved a bond issue for the purchase of up to 260 acres of land in Sugar Creek Township by the Bellbrook-Sugar Creek Township Park District to be permanently preserved as passive parkland. In 2013, the park district closed on the purchase of 247.5 acres of property just east of I-675, bounded by Feedwire Road on the south and Swigart Road on the north.

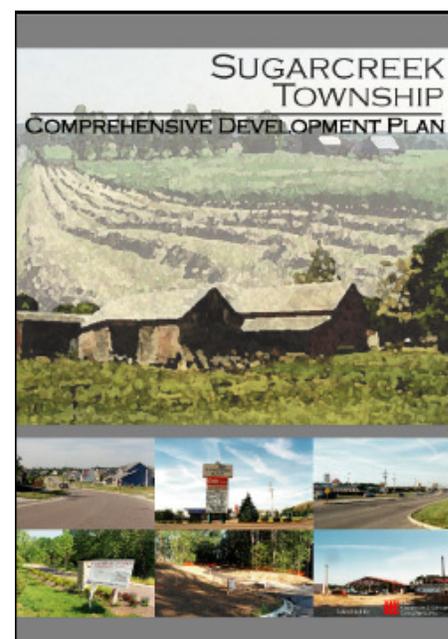
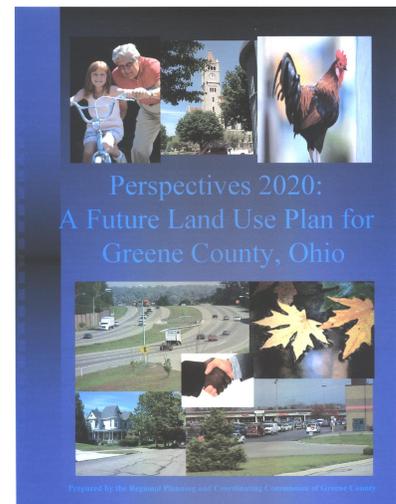
In 1978, the Greene County Regional Planning and Coordinating Commission prepared and adopted Perspectives: Future Land Use Plan for Greene County. Over the years, this plan was amended to incorporate plans by reference that have been prepared and adopted by other jurisdictions in the county.

Prior to 1986, Sugar Creek Township and Bellbrook had a joint fire department and a joint police department. In 1989, these services were separated so that the township would have full authority over its own fire and police services.

In 2000, the Greene County Regional Planning Coordinating Commission adopted the Greene County Farmland Preservation Plan. The plan evaluates and identifies those areas of the county prime for preservation based on soils, lack of urban infrastructure, and unique natural resources. The plan identifies most of the southern portion of Sugar Creek Township as an area that should be preserved through a number of implementation strategies including agricultural districts, conservation easements, and clustered development.

In 2001, Sugar Creek Township prepared and adopted the Sugar Creek Township Comprehensive Development Plan that addressed development throughout the township as well as identifying 13 distinct planning areas with individual planning policies. In conjunction with this plan, the township also undertook a major update of its zoning resolution to modernize the regulations and bring it in compliance with the new comprehensive development plan.

In 2002, Greene County adopted an update to its land use plan. The update identifies twelve Planning Partnership Areas (PPA) including the Sugar Creek Township/City of Bellbrook PPA. These PPAs were established to promote cooperative planning between local communities and the county while also allowing for a more individualized planning approach. The plan highlights the critical need to protect the natural resources of Sugar Creek Township and discourages the expansion of infrastructure in the southern portion of the township to minimize new development in the rural areas.





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In 2005, there was a ballot initiative to prepare a study that would evaluate the potential merger of Sugar Creek Township and the City of Bellbrook. The ballot initiative was narrowly defeated by 22 votes so the cost/benefit study for the merger was not undertaken.

In 2007, Sugar Creek Township updated the Sugar Creek Township Comprehensive Development Plan, making minor changes to planning areas boundaries and incorporating the township's desire to encourage the development of conservation subdivisions, particularly in the northern areas of the township where development pressure is greatest.

In 2008, there was another ballot initiative to prepare a study that would evaluate the potential merger of Sugar Creek Township and the City of Bellbrook. This ballot initiative was passed by voters in both Bellbrook (64% in favor) and Sugar Creek Township (61% in favor). A Merger Commission was elected comprised of five citizens from each jurisdiction. After studying the potential merger of the two communities for almost two years, proposed merger conditions were not agreed upon and a majority of the members of the Commission from the City of Bellbrook and Sugar Creek Township voted against the merger of the two communities.

In 2010, the Board of Trustees approved a new Zoning Resolution, incorporating recommendations of the 2007 Comprehensive Development Plan Update. Architectural standards were established, increased standards for landscaping and buffering were incorporated and conservation subdivision districts were created. In 2012, the Trustees approved an amendment to the 2010 Zoning Resolution to promote more unified, quality development and to provide more flexibility within the Planned Multi-Use District.

In the preparation of this plan update, Sugar Creek Township recognizes the Greene County Farmland Preservation Plan and the 2002 Greene County Land Use Plan as being consistent with the overall goals of Sugar Creek Township as established in this plan.



PLANNING FOUNDATION

A key component of any comprehensive planning strategy should be an understanding of how the community has grown and developed into the community that it is and how the community wants to grow in the future. Accomplishing this task means evaluating how the township has grown through an inventory of the existing conditions. This creates a foundation for which the township can base decisions on what policies are adequate and what policies should be refined or changed.

Existing Land Use

An assessment of how the land is currently being used is an important piece of information that must be evaluated in any land use planning effort. Property information and aerial photography available from the Greene County Auditor's Office along with input from staff helped establish an updated existing land use map (Map 1). This map classified property in Sugar Creek Township within the following land use categories:

- Agriculture/Undeveloped properties are areas of the township that are maintained as farmland, either for crops or for the raising of livestock, or are properties that are not currently used for any use listed below. Large residential properties with over ten acres also fall within this category due to the potential for future development.
- Single-Family Residential on 5 to 10 Acres are those properties with a single detached dwelling unit located on a single parcel. For the purposes of this plan, it was important to maintain a separate category for single-family residential uses located on large-lots.
- Single-Family Residential on 1 to 4.99 Acres are those properties with a single detached dwelling unit located on a single parcel. For the purposes of this plan, it was important to distinguish this type of larger lot single-family development.
- Single-Family Residential on less than 1 Acre are those properties with a single detached dwelling located on a single parcel. For the purposes of this plan, it was important to distinguish this type of single-family development from larger lot development patterns.
- Multi-Family Residential uses cover areas of the townships where there are multiple dwelling units, attached to one another, located on a single parcel. This category may include apartment buildings, townhomes, duplexes, two-family homes, and other attached housing.
- Office uses include those establishments that provide executive, management, administrative, medical, dental, or professional services in either small or large-scale office buildings.
- Commercial uses cover those areas of the township where there primary use is the provision of goods and services to the general public in a neighborhood or suburban commercial center.
- Industrial uses include the manufacturing and production of goods and/or services with little to no commercial or office use related to the main industrial use.
- Public/Institutional uses are properties and structures used for the provision of services related to the general public or institutions. These uses include religious places of worship, schools, government buildings, and other public uses. Also included in this category are lands owned by Little Miami Incorporated and held as nature preserves.
- Parks and Recreational uses are properties used for public open space and recreational uses such as playgrounds, ball fields, horse trails, and local or regional park lands.

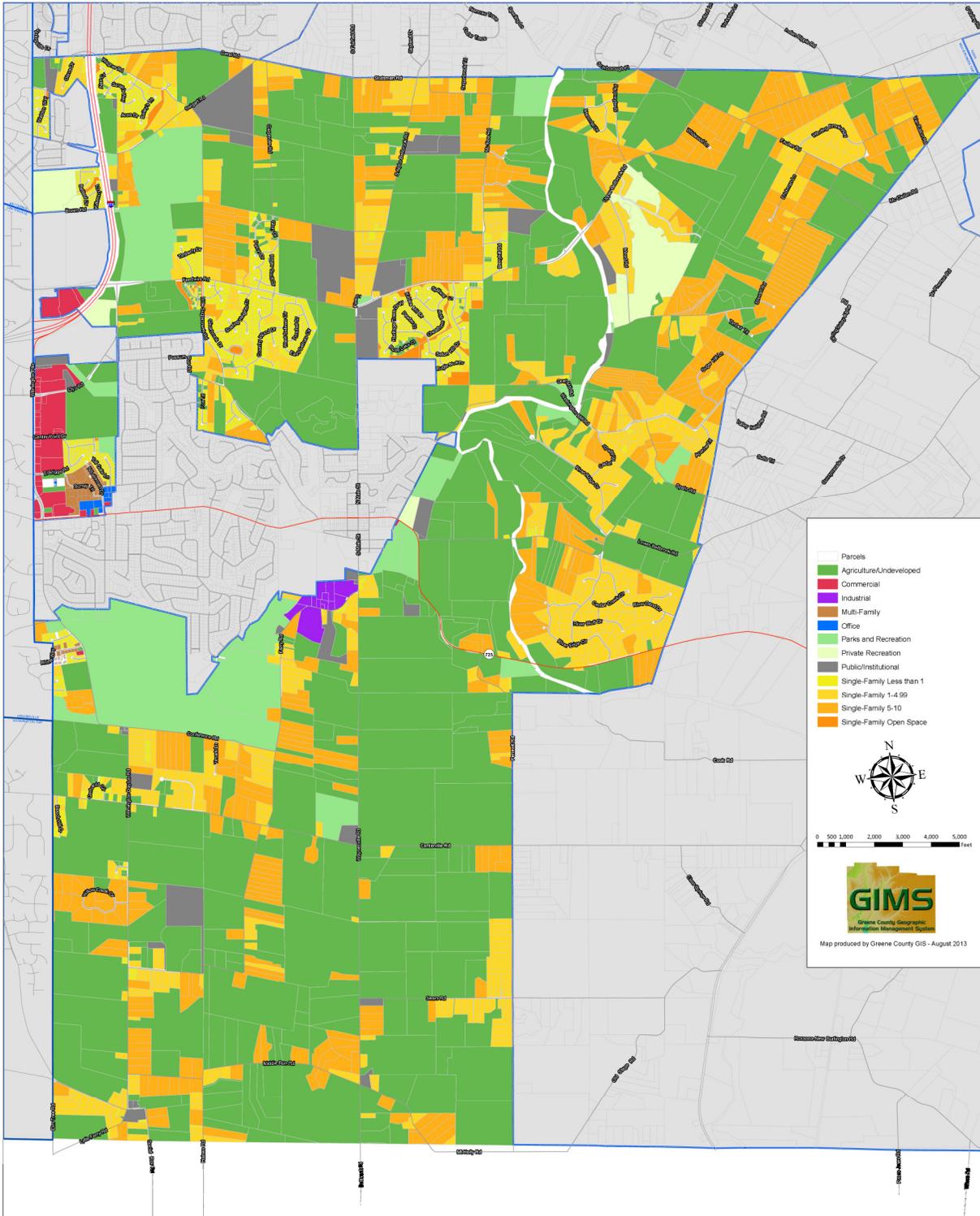
- Privately Owned Recreational uses are properties used for private recreational uses such as country clubs, golf courses, driving ranges and sports clubs.
- Single-Family Open Space uses are properties used for open space and located within single-family residential developments.

Table A and Map 2 illustrate the current distribution of land uses across the township. As part of the plan update process, there was a modification of the existing land use categories to clarify the existing land uses. A general comparison of existing land use between 2007 and 2013 shows that there has been an increase in residential development, particularly in the northern half of the township.

Table A: Existing Land Use Distribution		
Land Use	Acres	% of Township
Agriculture/Undeveloped	8,808	54.49%
Single-Family Residential 5-10 Acres	2,678	16.57%
Single-Family Residential 1-4.99 Acres	1,887	11.68%
Single-Family Residential Less than 1 Acre	645	3.99%
Multi-Family Residential	39	0.24%
Commercial	142	0.88%
Office	12	0.07%
Industrial	58	0.36%
Public/Institutional	463	2.86%
Parks and Recreational	1,126	6.97%
Privately Owned Recreational	253	1.57%
Single-Family Open Space	52	0.32%
TOTAL	16,163	100.0%



MAP 2: EXISTING LAND USE





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Natural Resources

While it appears that a vast majority of the township remains available for future development, there is a considerable amount of the community where natural features such as topography and floodplains pose constraints to future development. It is these natural resources, and the lack of infrastructure, that has thus far helped minimize the development pressure on the southern and eastern areas of the township and it is the existence of these natural resources that many residents find desirable. As such, the future growth of the township will be greatly influenced by the existence of topography, the Little Miami River, and the river's related floodplains.

Topography

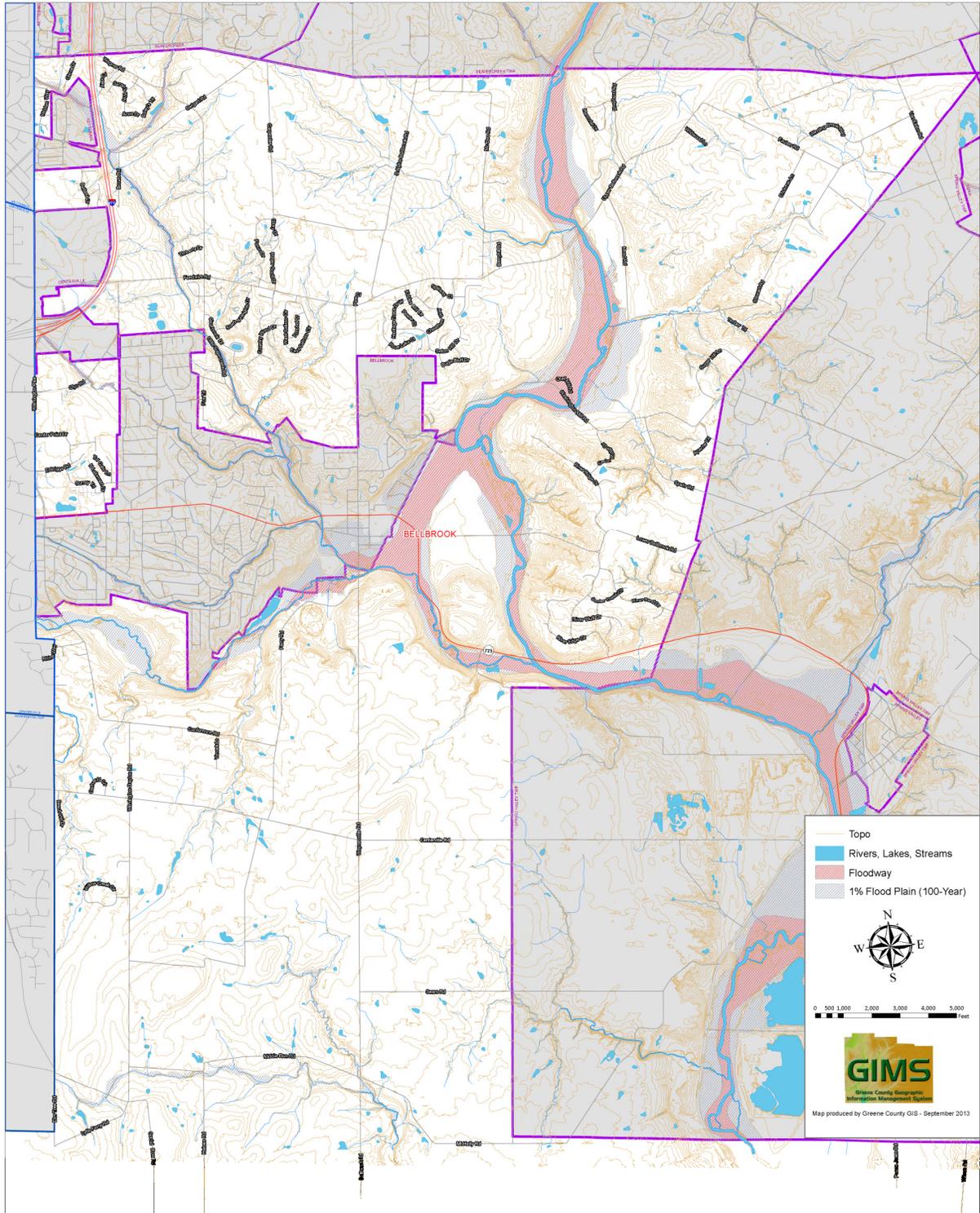
The attractive character of Sugar Creek Township is in large part created by its dramatic and varied landform. Map 3 illustrates the elevations that create the varied topography within the township. As illustrated in the map, the most prominent topographic features are the valleys of the Little Miami River and its various tributaries including the township's namesake waterways, the Sugar Creek and Little Sugar Creek. Additionally, in several areas of the township, the topography creates opportunities for long views and vistas over the landscape, which only adds to the unique rural experience of the township. As has been established in past planning efforts, the township has determined that areas with a slope of 15 percent or more should be targeted for preservation given the prevalence of this steep of a slope around the Little Miami River, the Sugar Creek, the Little Sugar Creek, and many of the related tributaries.



Soils

Soil types within the Miami Valley and the township have had, and will continue to have, a significant impact on the intensity and placement of development. There is a significant presence of prime farmland soils in the township and throughout the county as is the presence of hydric (wet) soils. Suitability for on-site wastewater systems is severely limited due to high clay contents. Development using septic systems can require significantly larger lots than those that utilize centralized sewer systems. While the Greene County Combined Health District reviews each site and system based on the individual characteristics of the site, a general rule of thumb is that on-site wastewater systems require as much as one and a half to two acres of land. This issue will remain a reality for most of the eastern and southern portions of the township where the topography makes the extension of sewer systems cost prohibitive.

MAP 3: ELEVATIONS AND FLOOD PLAINS





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Little Miami National and State Scenic River

The most prominent physical landmark in Sugar Creek Township is the Little Miami River which runs north/south through the township. Designated by the Ohio Scenic River Program as the State's first Scenic River in 1969 it was subsequently recognized as a National Scenic River in 1973. The river corridor is not only special to the state and nation as a scenic river but is a community asset to most Sugar Creek Township residents.

As with most river corridors, the Little Miami River is surrounded on both sides by a significant area of 100-year floodplain. These are areas where there is a one percent chance of flooding on an annual basis. Historically, the Little Miami River has experienced substantial flooding from time to time with major floods occurring in 1959 and again in 1963. For this reason, the county has established building and floodplain regulations that minimize the amount of development that may occur in the floodplain area to protect the safety of residents. When the Zoning Resolution was updated in 2010, the Floodplain and Little Miami River Overlay Districts were removed in response to input from legal counsel. Since their removal, the township redrafted the Little Miami overlay district and initiated an amendment to include the redrafted overlay in the Zoning Resolution. This amendment was ultimately not adopted. The township continues to work with the Greene County Floodplain Administrator, the authority over floodplain development in the township, to ensure that this sensitive riparian corridor is protected. Given that there is clear value in preserving the natural character of the floodplain area related to the Little Miami River, the township should prioritize the use of low impact development tools.





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Infrastructure

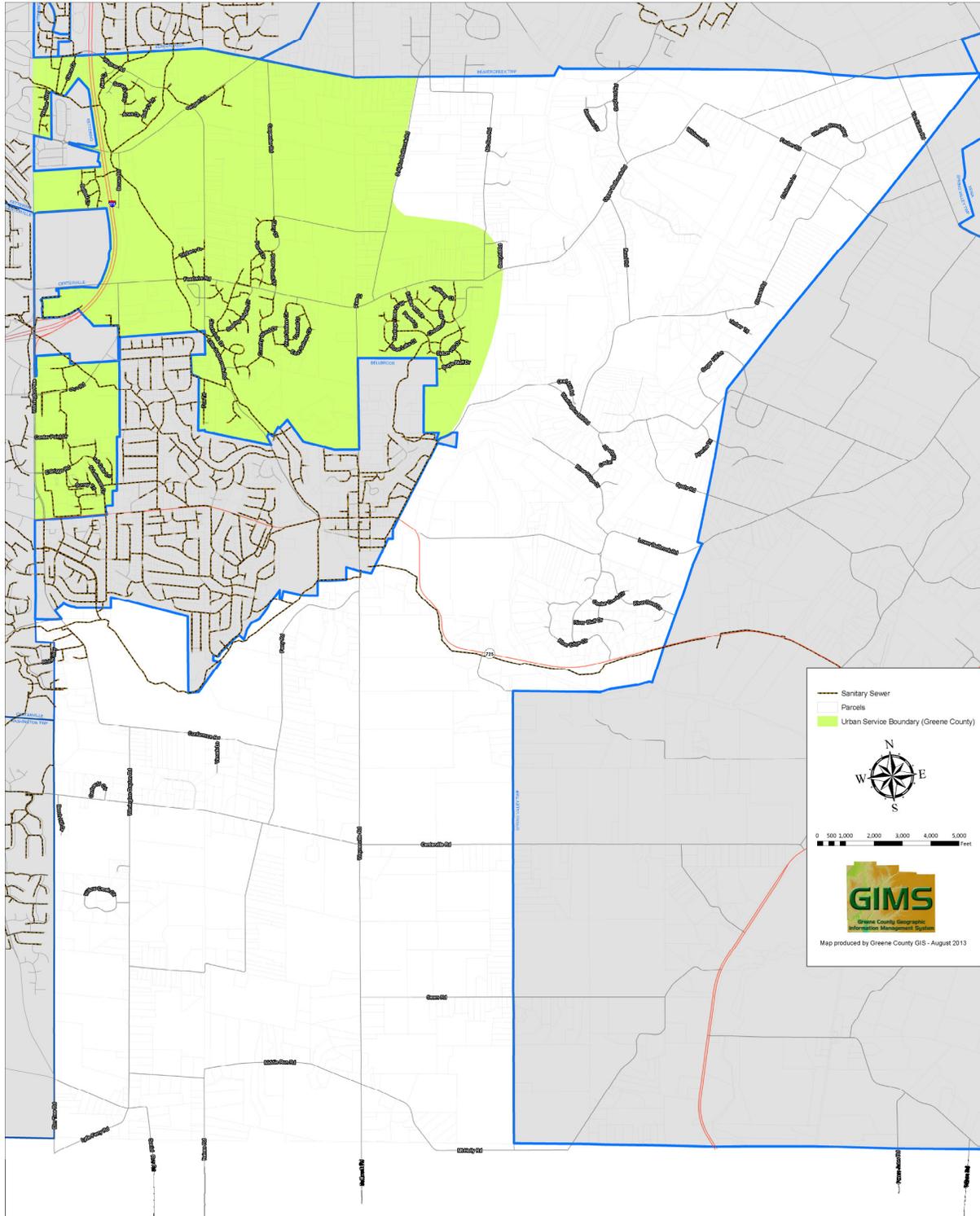
Utilities

While many people believe the interstate highway and roadways are what drive development, the true factor that influences where and how much development may occur are the utilities, and in particular sanitary sewers. It is the extension of the sewer, and to a lesser extent the extension of water lines, that allows increased densities and more intense land uses. Many communities are able to directly influence growth by controlling utilities. For example, many cities will not provide water or sewer service to a property unless it is annexed and falls under the control of the city. For townships, this is an unlikely scenario, as the control of utilities tends to fall under the realm of county or regional agencies. For Sugar Creek Township, the control of the sanitary sewer system, and some of the water system, falls under the jurisdiction of the Greene County Department of Sanitary Engineering. Other agencies, such as the City of Bellbrook and Montgomery County provide water service to the remainder of the township. Map 4 illustrates the locations of existing sewer lines as well as the area considered to be the urban service boundary for these utilities.



The Greene County Department of Sanitary Engineering completed improvements to the Sugar Creek Wastewater Treatment Plant in Spring Valley Township in 2008. Prior to the improvements, the township had considered a moratorium on development given the lack of treatment capacity for new development and an increased number of overflow events into the local streams. The improvements to the plant have increased the treatment capacity of the plant but did not change the urban service boundary because the improvements did not include the extension of any sewer lines. However, the improvements that were made were done in expectation of growth in the northern part of Sugar Creek Township and in Montgomery County. For the most part, the expanded treatment capacity will assist in the treatment service already provided to Montgomery County residents whose sanitary waste is treated by Greene County systems. The department does not have any plans to build sewer lines to expand the service area. However, if a private developer wanted to extend sewer lines, the developer could extend the lines provided they meet the standards of the county. The only reason the county would eventually build additional sewer lines in the area would be if they were required to expand the system as a mandate by the state or in conjunction with system improvements, of which none are planned at this time. For this reason, the topography of land, and the ability to easily install gravity fed sewer lines, sanitary sewer service will largely be restricted to Planning Areas 1 through 3 and the western portion of Planning Area 8 (see page 46). Additionally, a small area south of Bellbrook in Planning Area 3 is also served by public systems.

MAP 4: SEWERS AND URBAN SERVICE BOUNDARY





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Transportation Network

Traffic patterns in Sugar Creek Township over recent years resemble those found in many growing urban fringe communities. Once rural roads that were not designed for constant traffic flows, are now required to carry a growing amount of traffic as suburban residential and commercial development creates a substantial increase in traffic. While commercial roads such as Wilmington Pike have been improved with development, there are still traffic choke points near the interstate and major intersections at peak hours of travel. With residential uses, there are often localized improvements to the transportation network to add turn lanes and deceleration lanes that affect a particular development but broader improvements to an entire road are often made when the road has very poor levels of service and after development has taken place.



Complicating matters is the fact that the township has only minimal authority when it comes to transportation. The township is responsible for the maintenance and improvements on local roads that are typically the residential streets inside of developments. Greene County is responsible for maintaining and improving county roads, which include most of the larger “cross-township” connector and arterial roads including, but not limited to, Wilmington Pike, Feedwire Road, Little Sugar Creek Road, Centerville Road, Waynesville Road, Wilmington-Dayton Road, Stewart Road, Lower Bellbrook Road, and others. The state of Ohio is responsible for State Route 725 and also assists the federal government in maintaining Interstate 675. Because of the multiple layers of responsibility, the township’s main method of encouraging various improvements is by working with the county, the Miami Valley Regional Planning Commission (MVRPC), and state to help plan for improvements.



Planned Road Improvements

MVRPC currently maintains a transportation plan for Greene, Miami, Montgomery, and Warren Counties. While the plan includes numerous long and short term projects, the Clio Road Connector project will have a significant impact on Sugar Creek Township. Phase 1 of this connection extending from the existing terminus of Clio Road to Feedwire Road was completed in 2010. Phase 2 will take the current three lane configuration to five and is scheduled for construction in 2014. Planned improvements to the I-675 and Wilmington Pike Interchange to increase the capacity of Wilmington Pike and the existing I-675 ramps are included in the MVRPC’s long-range transportation plan. Phase 1 of this project is planned for construction in 2015. The long-range transportation plan also calls for the widening of Feedwire Road to three lanes from I-675 to Upper Bellbrook Road, with a timeframe of 2016-2020. Per the Greene County Engineer’s Office, widening at intersections, culvert replacement and the addition of turn lanes at Little Sugar Creek, Feedwire and subdivision entrances in the project area is planned for 2014.



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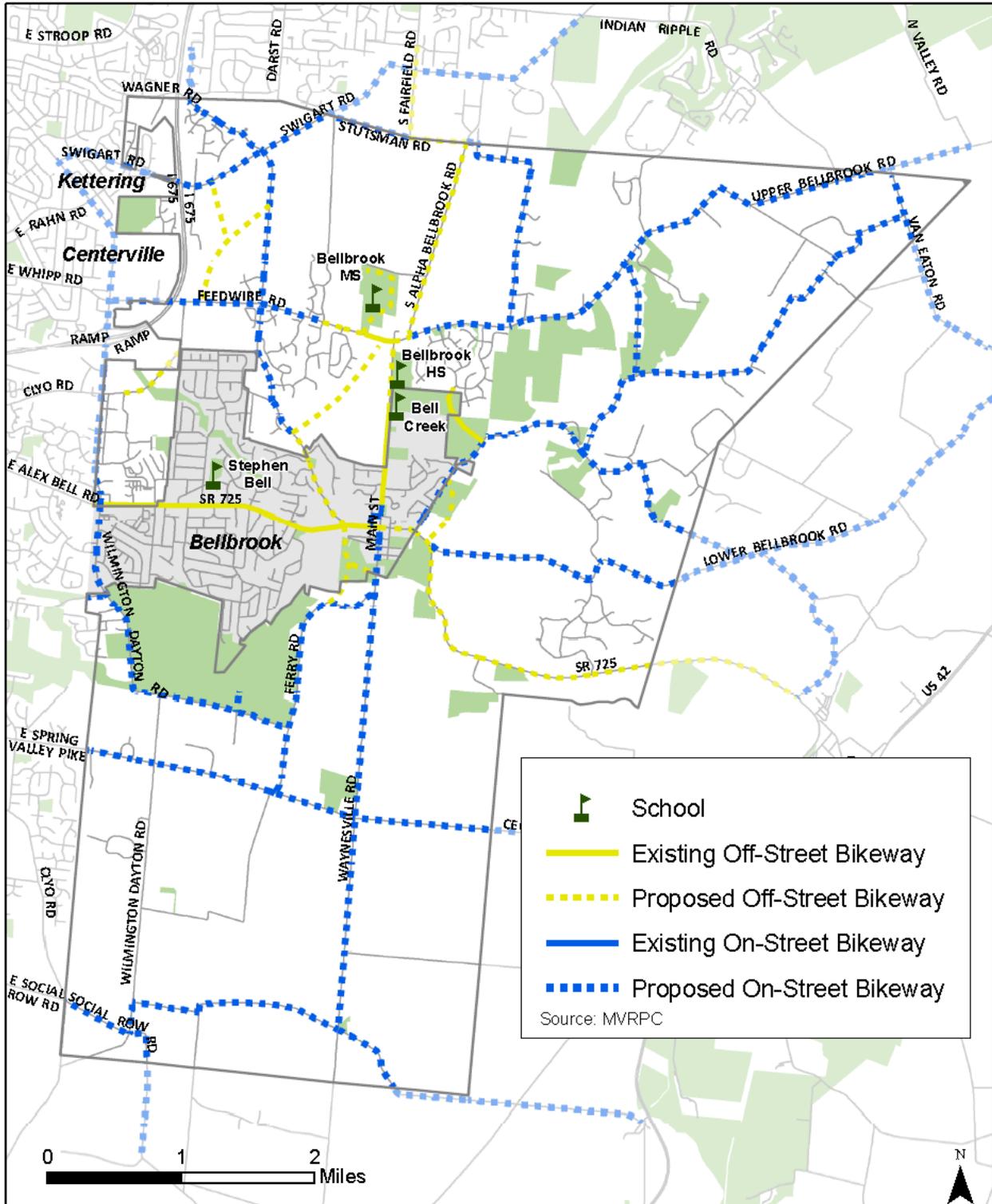
Sidewalks, Bikeways, and Trails

In addition to roads and vehicular traffic, the transportation network also includes pedestrians and bicyclists. Planning and requiring sidewalks, bikeways, and trails has the same difficulties as road improvements due to the multiple agencies involved and the limited authority of the township. While the township can review sidewalks and trails as part of a planned development, they have little involvement in planning for additional sidewalks and trails unless they establish a special fund and plan for expanding trails. Like the road improvements, MVRPC does have a long-term plan for expanding bikeways and trails throughout the four counties it oversees including extending a north/south trail between Bellbrook Park to existing bike paths at Dayton-Xenia Road and creating an east/west trail along State Route 725 from Wilmington Pike east to the Little Miami Scenic River Bikeway in three different phases. Public meetings were held in 2008 on the phase of this path from Sackett-Wright Park to Spring Valley along State Route 725. This project was met with opposition from impacted property owners. It remains a part of the MVRPC's long-range plan, but construction in the immediate future cannot be expected.

The MVRPC completed a local jurisdictional bikeway plan for Bellbrook and Sugar Creek Township as part of the overall regional bikeways plan in 2008. As recommended in that plan, Sugar Creek Township formed a Safe Routes to School Committee and completed a School Travel Plan in 2009. The School Travel Plan identifies walking and biking infrastructure improvements within two miles of the Intermediate and Middle Schools. The township has prioritized these infrastructure improvements, with construction on the first phase of improvements in 2013.

As part of this plan update, an evaluation of the township's overall connectivity goals was completed. Proximity to a network of hike and bike trails can provide a significant boost in property values of residential developments. Loveland and Symmes Township in the Cincinnati area are good examples of areas where homes with easy access to the Little Miami bike trail are more desirable to homeowners. Map 5 represents the township's connectivity goals and should serve as a guide for inclusion in future development plans.

MAP 5: CONNECTIVITY PLAN





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Planning Trends

A key component of any comprehensive planning strategy is an understanding of the demographics of a community and a review of the general trends affecting its future. This type of analysis is useful in answering the following questions, which in turn provide the basis for making decisions during the development of the comprehensive plan.

- How has the township grown in the past?
- What are some of the changing trends, both in the township and across the nation, which might affect our future?
- How might we grow in the future if these trends continue unchanged?

The following sections provide a summary analysis of the demographic profile of Sugar Creek Township and the general analysis of trends. These trends can be used to evaluate the amount of additional land that may be “needed” over the next 20 years for both residential and nonresidential purposes. This analysis is important to the plan, because current trends may bring more or less growth than what the community wants in its future. The purpose of this analysis is to provide a foundation of knowledge of how much growth the township may anticipate in the future if current trends and development policies continue and is not reflective of any recommendations proposed as part of this plan. This analysis also allows the township to tailor planning tools that will guide any new growth toward the community’s vision of Sugar Creek Township in 2030.

Population and Housing

As with most suburban communities, Sugar Creek Township has continued to grow in recent years, albeit at a much slower annual growth rate than in the 1990s. Table B illustrates the growth of Sugar Creek Township and surrounding communities between 1990 and 2010.

Table B: Population Growth 1990-2010					
Community	1990 Population	2000 Population	1990-2000 AAGR*	2010 Population	2000-2010 AAGR*
Greene County	137,195	147,886	0.75%	161,573	0.89%
Beavercreek Township	1,850	2,868	4.48%	5,762	7.22%
Sugar Creek Township	3,566	6,629	6.40%	8,039	1.95%
Xenia Township	7,510	6,117	-2.03%	6,537	0.67%
City of Beavercreek	33,544	37,984	1.25%	45,193	1.75%
City of Bellbrook	6,450	7,009	0.83%	6,943	- 0.09%
City of Centerville	21,082	23,024	0.89%	23,999	0.42%
City of Kettering	60,569	57,502	-0.52%	56,163	- 0.24%
City of Xenia	24,867	24,183	-0.28%	25,719	0.62%

*AAGR = Average Annual Growth Rate

In the 1990s, Sugar Creek Township witnessed fast paced growth with an average annual growth rate of over six percent. That rate slowed substantially in the 2000s when the average annual growth rate was just



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under two percent. This decline in the growth rate is likely caused by a number of factors including changes in local policy (e.g., increased lot size requirements, higher development standards), the impact of overall decreasing household sizes, annexation (i.e., growth that is occurring in former territory of the township) and a downturn of the housing market.

While the Census provides a good estimate of population and population changes, local information such as building permit data provides an even more accurate estimate of how much growth is taking place in Sugar Creek Township. Information provided by the Greene County Building Department shows that the number of permits issued for single family dwelling units per year began to decrease in 2006 and continued a general decline with the onset of Great Recession in December 2007 (officially ending in June 2009).

Given the information above, it is possible to forecast the potential future population of the township if it is assumed that the township will continue to grow in a manner similar to historic trends. Assuming that the township will continue to see an average of 40 housing units permitted or built on an annual basis (the average number of permits issued over the course of the last 10 years was 41 per year), that trend would lead to a total of 3,586 housing units in 2030 (2,786 units in 2010), or an approximate township wide population of 10,435 people (2.91 persons per housing unit). This translates into an average annual growth rate of 1.3 percent, which is a slightly slower rate than in the 2000s and far slower than the growth that occurred in the 1990s. It is also a rate reflective of actual building permit trends rather than strictly based on census data.

Residential Land Demand

The land demand, or acreage that the growing population may require, is calculated by determining the amount of land necessary to accommodate the population and housing projected for the next 20 years if current development trends continue unabated. By applying an assumed development density to the projected number of new housing units, the result is the projected amount of land that will be demanded for the new development. This is an important analysis because if one assumes a rather low density of development, more land will be required while higher densities will actually decrease the amount of land that will need to be taken from the agricultural and rural base of Sugar Creek Township.



Based on the population and housing projections discussed earlier, the township could see an additional 720 new housing units by 2030. The township's current zoning allows residential densities of anywhere from one unit per five acres up to approximately two units per acre (outside of the Planned Residential District, which addresses density on a case by case basis). Assuming that approximately 70 percent of new homes will be constructed in planned communities in the northern portion of the township, the township might see approximately 504 new homes in the areas served by water and sewer and another 216 units in the more rural areas. Once again, assuming that the homes in the northern part of Sugar Creek Township will develop at a typical gross density of 1.5 units per acre and the more rural development at an average



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density of one unit per five acres, the new homes could demand approximately 1,416 acres as shown in Table C.

Table C: Residential Land Demand by 2030 Under Current Trends

Housing Type	% of New Homes	New Housing Units	Assumed Gross Density	Residential Land Demand
Suburban	70%	504	1.5 units/acre	336 acres
Rural	30%	216	1 unit/5 acres	1,080 acres
Total	100%	720	-----	1,416 acres

This scenario does not reflect the desired vision of the township for 2030. At the densities and ratios of development illustrated in Table C, a significant portion of the township's land will be consumed by residential development with little resemblance to the once rural character of the township so desired by the township in the development of this plan and its update. As part of this update, it was determined that the more desirable outcome is to strongly encourage more residential development in the suburban areas where water and sewer service is available while discouraging development to the south in the rural areas of the township (illustrated in Table D).

Table D: Planned Residential Land Demand by 2030

Housing Type	% of New Homes	New Housing Units	Assumed Gross Density	Residential Land Demand
Suburban	90%	648	1.5 units/acre	432 acres
Rural	10%	42	1 unit/5 acres	210 acres
Total	100%	720	-----	642 acres

The alternative scenario presented in Table D closely reflects the future vision of the township. The recommendations in this plan, as described in later sections, both promotes the above scenario as well as considers the ability of the township to accommodate the increase in development in targeted areas of the township. The land capacity analysis discussed on page 24 illustrates how there is sufficient land capacity within Planning Areas 1 and 8 to accommodate more than the 648 units planned for in the suburban areas of the township.

The township currently has 75 lots platted for development in subdivisions primarily in the suburban areas of the township (16 of these platted lots are outside of Planning Areas 1 and 8). 338 lots are not yet platted but are planned for future development wholly within the suburban areas of the township (Planning Areas 1 and 8).

To help encourage the planned scenario, the township needs to identify incentives that will attract developers to the northern areas of the township where services are available. One method recommended in the 2007 plan and implemented by the township was the revision of the existing zoning to allow for conservation subdivision design, which would only be permitted in certain areas of the township. This strategy lowers development costs by reducing the infrastructure costs through clustered lots that are



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easier to access with roads, water, and sewer, while at the same time providing density incentives for the development of conservation subdivisions. In response to heightened annexation threats, the township should also continue to evaluate additional options for development like the Planned Residential District (PUD-R) adopted in 2013.

Related Housing Analyses

In addition to the amount of residential development that has occurred or is projected to occur in the township, the community is also aware that there are changing trends in the type of housing that the township should be considering in an effort to accommodate a more diverse population. Two aspects of housing that were evaluated as part of this comprehensive development update were the age of householders and the value of housing in both the township and the region.



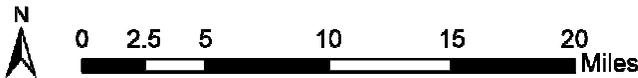
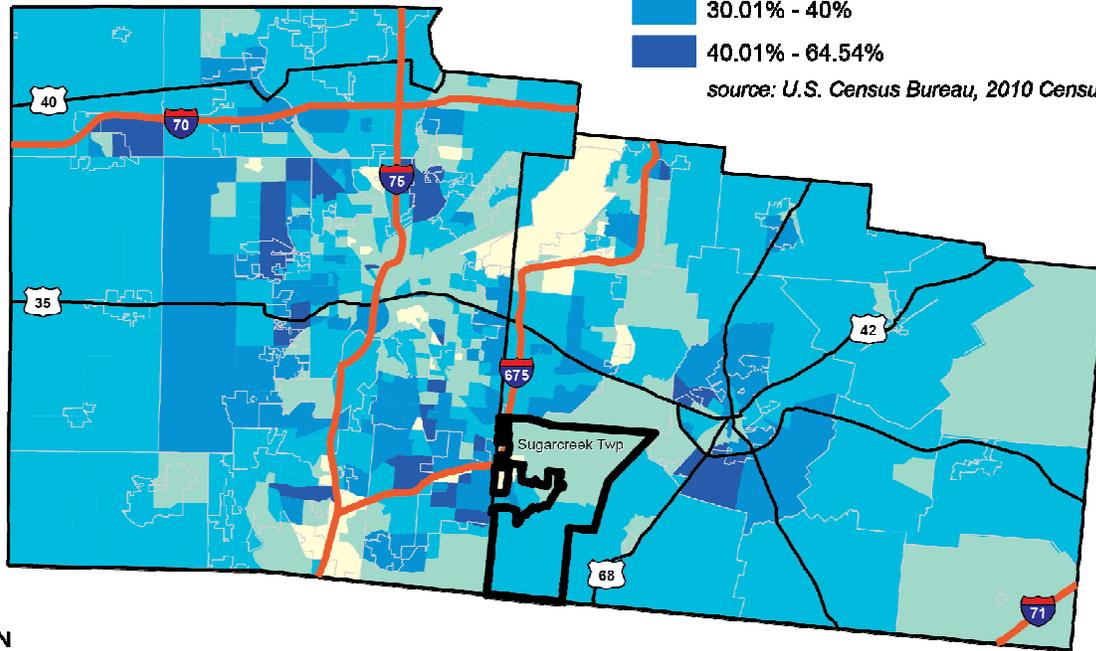
Age of Householders

With improved health care, people are living longer and as such, there are a growing number of households where the householder is 65 years or older. Nationally, over 22 percent of households have a householder who is 65 years or older but in Sugar Creek Township, that ratio is only 17.3 percent (19.1 percent when including the City of Bellbrook). Map 5 illustrates the percentage of householders who are 65 years old or older in Montgomery and Greene Counties based on the 2010 Census.

Percent of Occupied Housing Units With Householder 65 or Older



source: U.S. Census Bureau, 2010 Census.



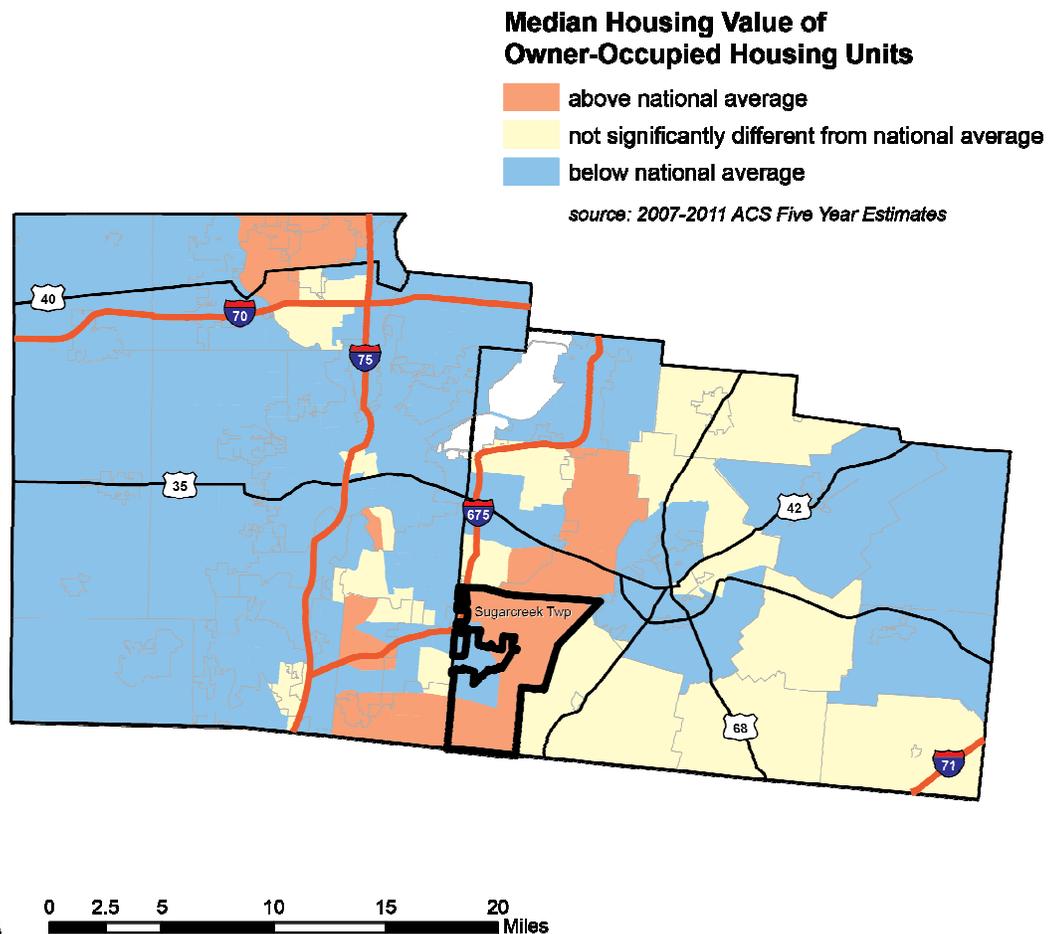
Map 6: Percentage of Households with Householder 65 Years +

Sugarcreek Township has begun to see the aging of its population. The percentage of householders age 65 or older increased from 12.7% in 2000 to just over 17% in 2010. Those people who are moving into the area are most likely younger households moving outside of the Dayton urban area. As the township continues to mature, these younger households will age and will be looking for housing opportunities beyond the single-family detached home on a half-acre or larger lot. Additionally, older households will be in need of additional services such as senior service programs, a range of living options that will include independent living to nursing homes and assisted living facilities. Areas that currently have older householders now are generally located in city centers where there is closer access to shopping and other services. The demand for transportation, improved services, and a variety of housing options will continue to increase as the population in Sugarcreek Township and the immediate vicinity continues to age.

Value of Housing

Another aspect of the housing stock that impacts the community is the overall value of housing. The value of housing in Sugarcreek Township is one of the highest in the Dayton region with a 2010 median value of \$288,200 (see Map 6), over 50% above the national median value of \$186,200. Locally, the communities of Sugarcreek Township and the City of Bellbrook saw an average sale price of \$228,807 for an existing home in 2012 based on information from the Dayton Area Board of Realtors. This exceeded all but two of 23

communities evaluated as part of the study. This information is pertinent to planning for the future in that it is a sign that the community may have a larger number of homes that are priced out of reach of much of the population. In order to afford a home that costs \$300,000, a household will need an income of at least \$90,000 depending on debt levels and interest rates. At that level of income, households are looking for move-up homes and luxury homes and there is likely a lack of starter homes targeted toward people who are just out of college and empty-nester homes for retirees and people whose children have moved out of the house.



Map 7: Median Housing Value

Taxes

As the township continues to grow, there will be a continued need to evaluate the fiscal health of the community, particularly given the fact that much of the new growth is likely to be residential. Sugarcreek Township residents and businesses enjoy a high level of public services (Police, Roads, Fire, etc.). The cost of providing these services continues to rise while revenue streams are being reduced (the elimination of the estate tax, the reduction of local government funds, etc.). The township will need to look for alternative ways to provide and fund these types of services (joint service districts, sharing services, consolidation of services, etc.). As identified in the previous comprehensive development plan, the 2000 ratio of agricultural and residential base valuation (value of property used for real estate taxation purposes)



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compared to commercial and industrial base valuation was approximately 75 percent agricultural and residential to 25 percent commercial and industrial. In 2008, the county completed its mandatory six-year reappraisal of properties and as of 2012, the ratio has decreased with 86 percent of the valuation taxed in the township coming from agricultural and residential uses and only 14 percent coming from commercial and industrial valuation.. As more homes are built in the township, and the value of homes continues to increase, there can be expected a continued trend toward more of the tax burden falling onto residential property owners. This is not at all unusual for townships in Ohio given the large size of a typical township and the fact that a significant portion of commercial and industrial growth tends to occur in cities and villages.

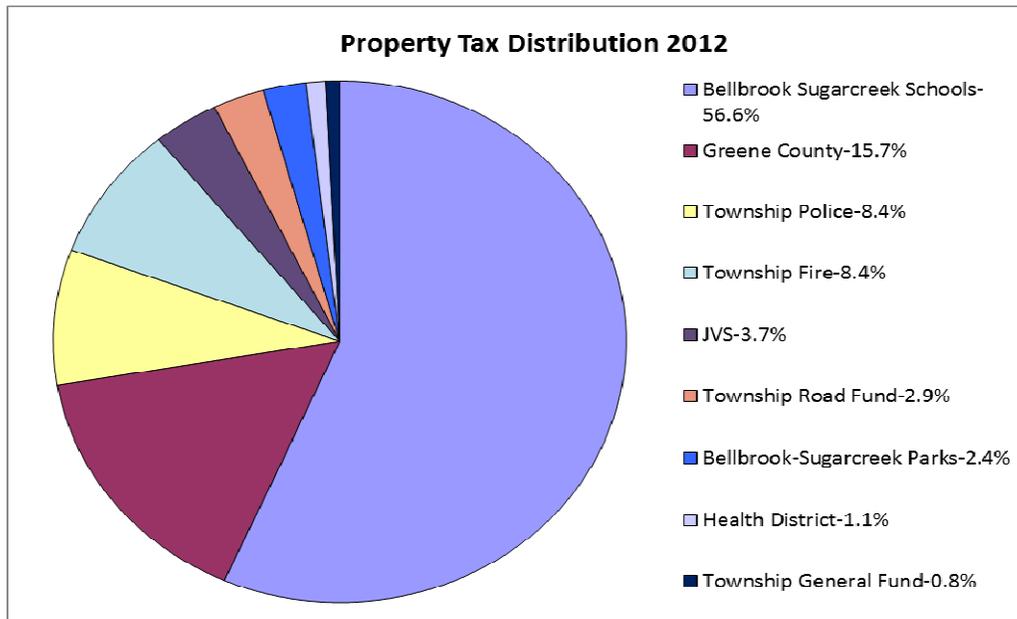
Based on the above information, it will be important for the township to monitor growth and its impact on taxes. With increased population comes the need for increased services, particularly related to schools and township services. In general, most residential uses do not “pay for themselves” because for every one dollar a residential property owner pays in taxes, it costs more than one dollar to provide the various services paid for by those taxes (e.g., schools, roads, zoning, parks, etc.). This is not necessarily true for all homes because, depending on the type of housing, local tax rates, and cost of services, homes of certain values may be providing a sufficient amount of tax base to pay for services. This is why some communities consider creating a cost of services study. These studies outline the cost of services, how those services are financed and maintained, and then compare these costs with the taxes paid by different housing types and housing values. Depending on the community and applicable taxes, the following are some general findings regarding residential uses and taxes:

If the township wants to truly understand the impact different types of housing have on the tax base, it will be necessary to complete a detailed cost of services study.

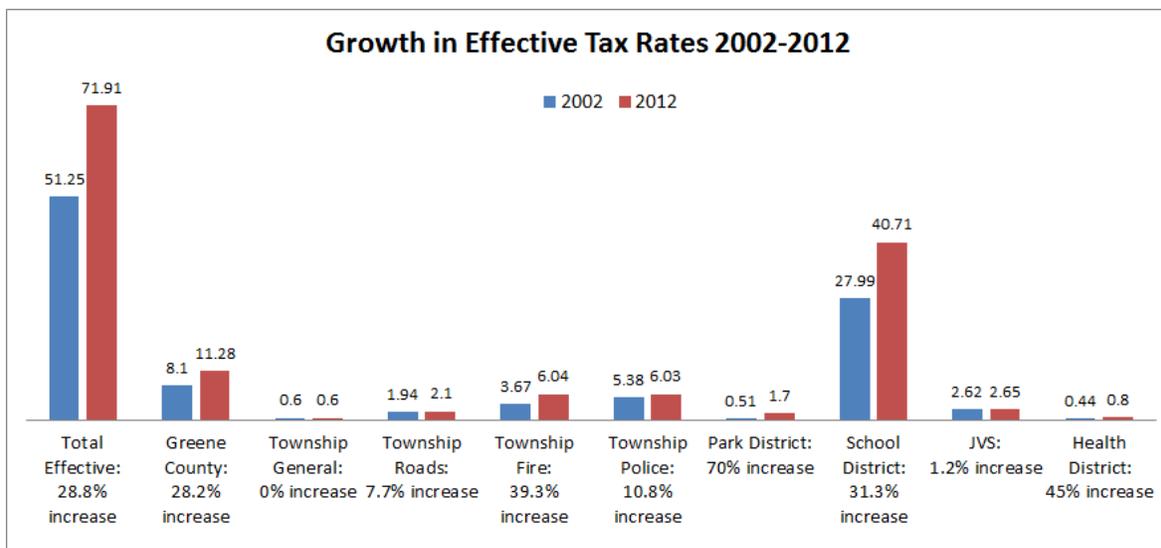
- Residential uses do not typically pay for themselves.
- Building more residential uses will not necessarily lower tax rates. In fact, without supplementing the tax base with income taxes (not an option in townships), nonresidential development, or similar tools, excessive residential development could possibly require increased residential tax rates.
- Certain types of housing for older persons may not generate students to burden the school system but it can increase the burden on other services such as emergency medical services.
- In a community such as Sugar Creek Township, which has a high residential land valuation, the tax burden will fall largely on the residents.

Based on the findings on the previous page, the township needs to understand the overall benefit of a development to the township tax base to ensure a long-term balance of housing so as to minimize the tax burden on the community.

The property taxes paid by property owners in Sugar Creek Township are distributed to many different entities to fund numerous types of public services. The following chart illustrates how property taxes are distributed for tax year 2012, payable in 2013.



A historical comparison of 2002 effective tax rate data to 2012 effective tax rate data indicates growth in most all areas, with the sole exception being the township general fund.



As the township grows, it will be important to identify methods of providing services other than increased taxes (e.g., impact fees, joint service districts, etc.) to ensure overall fiscal responsibility. It will also be important for the township to prioritize its economic development and branding programs to help attract quality non-residential development to help stabilize tax rates.

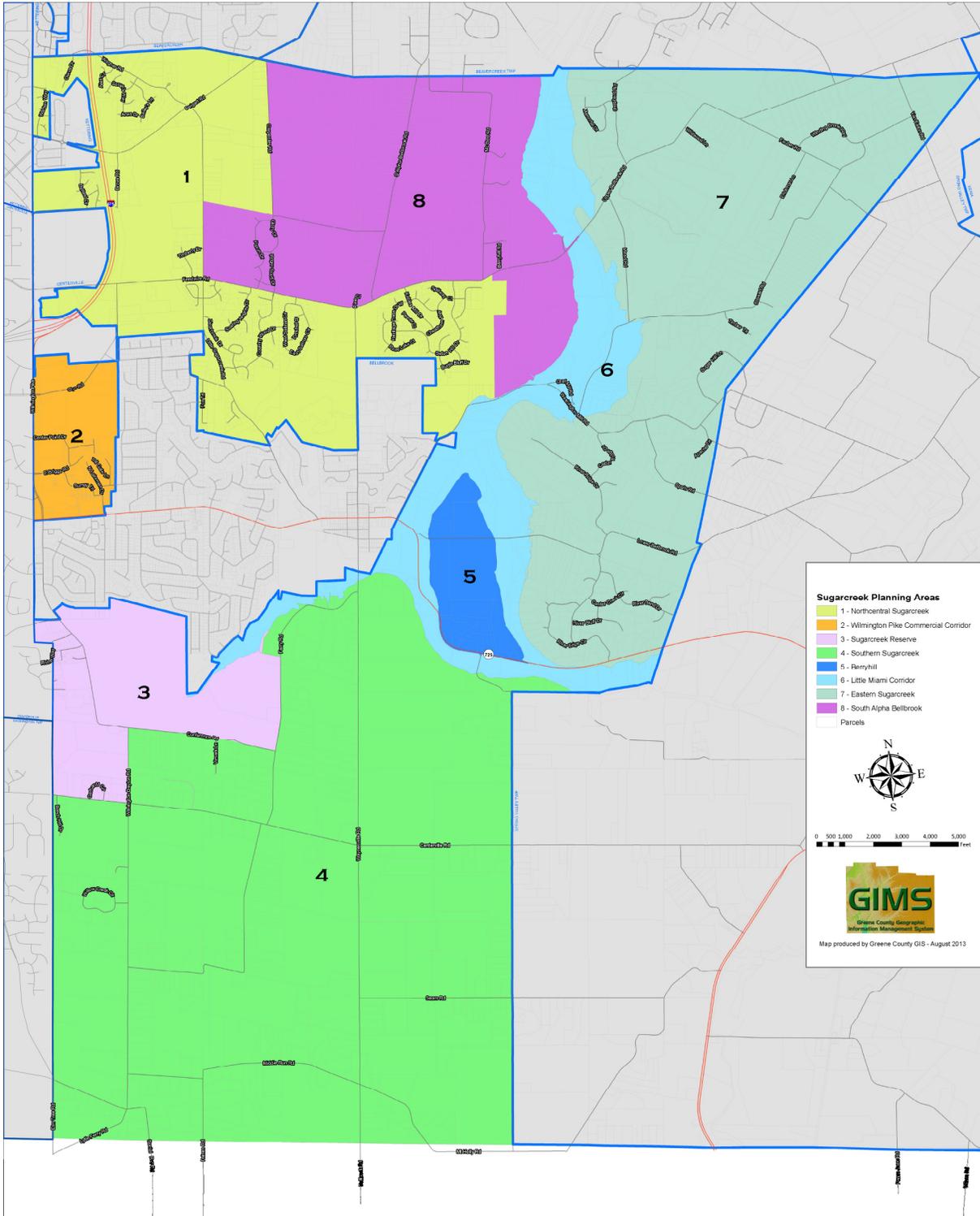


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Planning Areas

For the purpose of this plan, Sugar Creek Township was divided into 8 planning areas. These areas were created after evaluation of the characteristics of the area including land uses, development pressures, infrastructure, general character, and natural resources described in the previous sections. Map 8 illustrates the boundaries of the planning areas. Dividing the township into these areas allows for focused discussions of areas that have individual needs as well as to provide targeted recommendations that may only impact particular areas of the township. Each planning area is further illustrated and discussed in the long-range land use plan recommendations starting on page 37.

MAP 8: PLANNING AREAS





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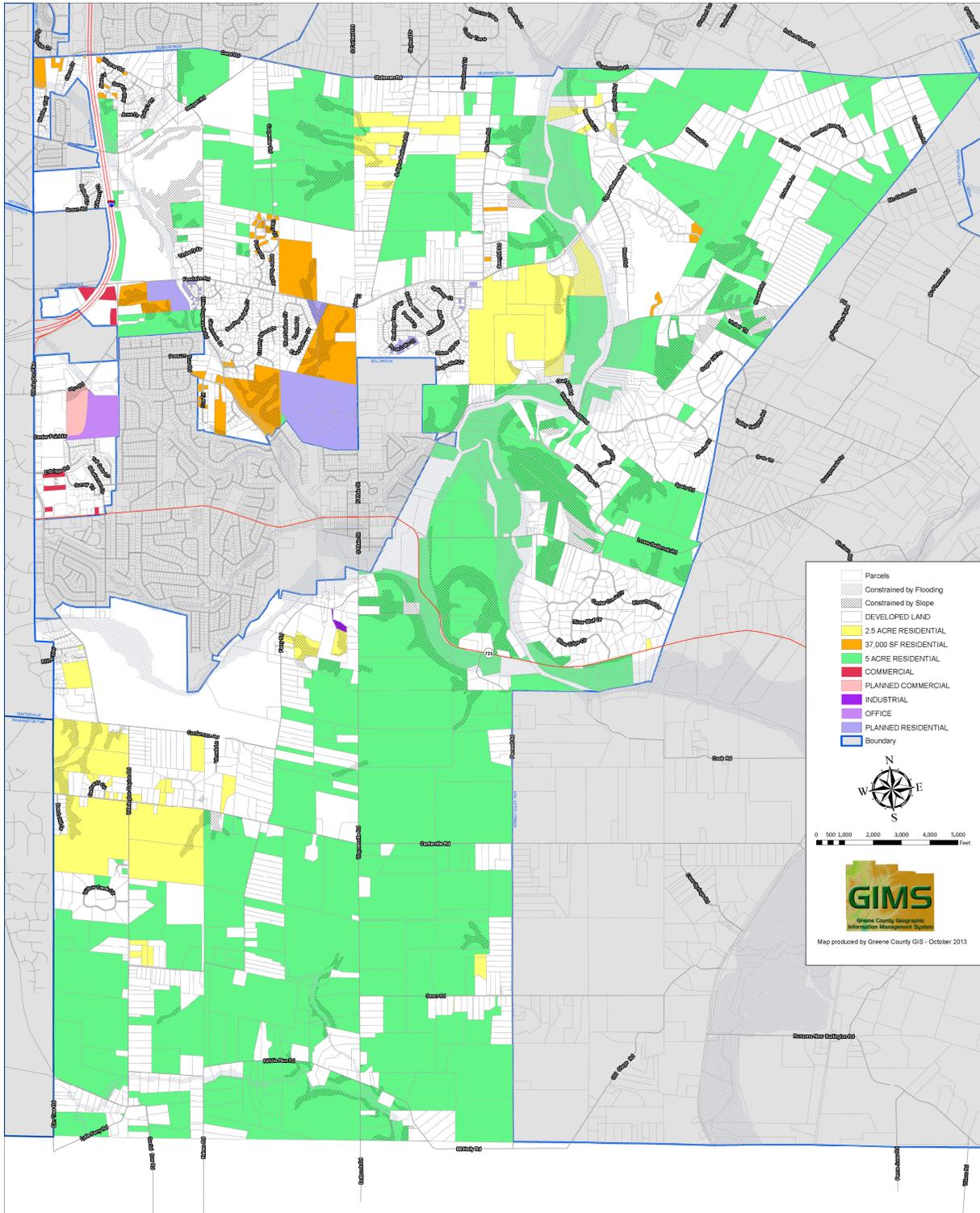
Land Development Capacity

The counterpart of the housing forecasts and land “demand” (page 22) is the land “capacity” or, in other words, how much new development could occur within the township. The initial land capacity analysis was based on existing zoning and natural resources followed by a second land capacity based on the land use recommendations of this plan. Land capacity is a simple calculation that takes 85 percent of the total area of agricultural lands, undeveloped properties, and large residential properties multiplied by the permitted zoning or plan density to provide an estimated number of housing units. The 85 percent ratio accounts for the general rule of thumb that approximately 15 percent of land is needed for streets and other public dedications. Because there are significant areas of the township where the land capacity is reduced by floodplains and steep slopes, which naturally limit development, there are two different land capacity scenarios that were evaluated as part of the planning process:

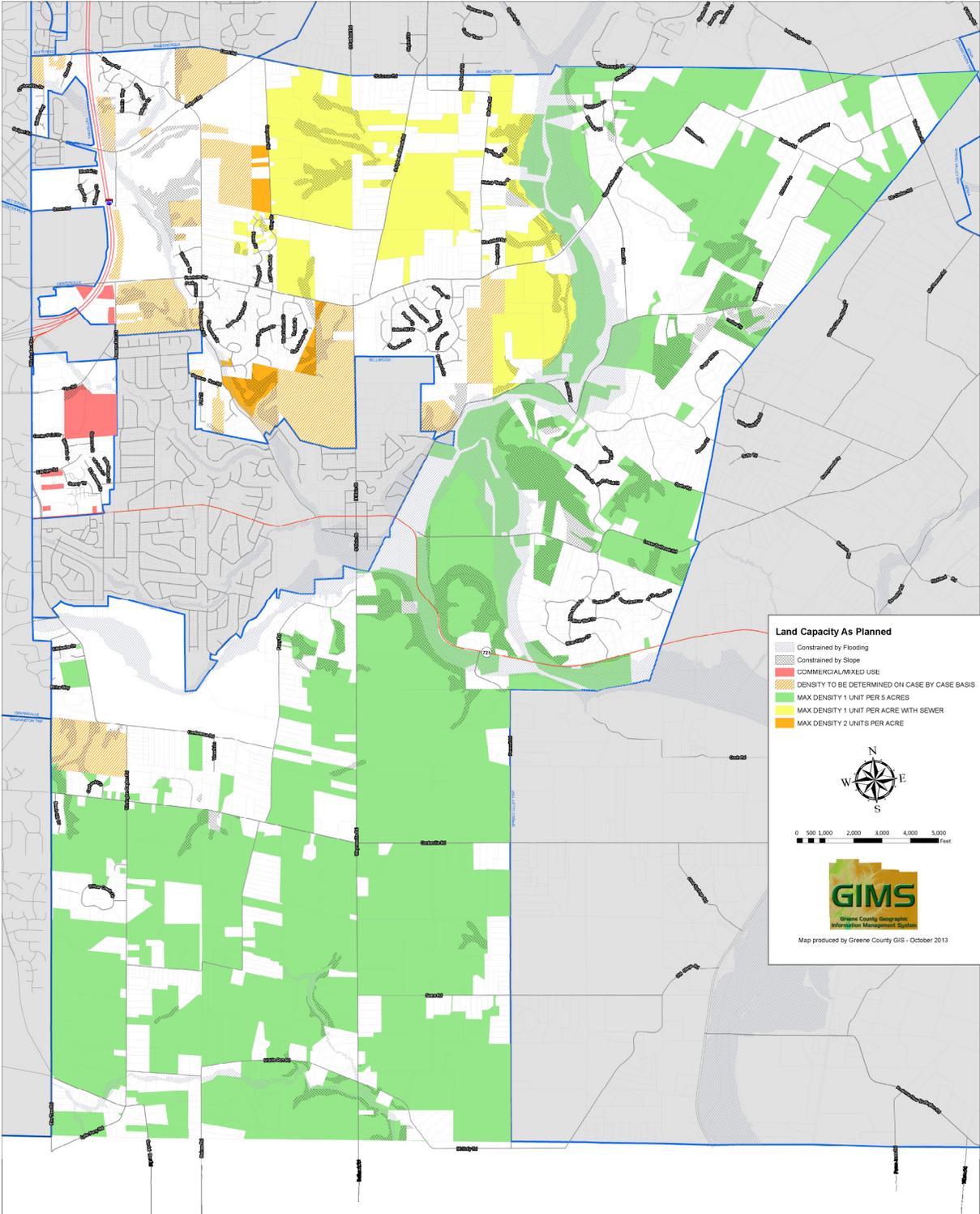
- **Land Capacity under Current Zoning** – This scenario assumes that all land with some potential for development, regardless of the existence of floodplains or slopes, develops to the maximum extent allowed by zoning.
- **Land Capacity as Planned** – The final scenario illustrates the capacity that results when the plan recommendations in the following section are applied to the township including the lack of development in the floodplains and on steep slopes. This scenario assumes the maximum permitted residential densities (i.e., two units per acre when developed as a conservation subdivision) as described in the plan. Because the plan supports a non-prescriptive density scheme for land adjacent to an incorporated area and land adjacent to public land adjacent to an incorporated area, land capacity as planned could not be perfectly quantified in Planning Areas 1 and 3. A density of two units per acre was applied to these land areas for the purpose of this analysis, understanding that actual realized densities for these land areas may be higher or lower.

Maps 9 and 10 on the following pages illustrate the land considered to have some potential for development which was used for the land capacity analysis. These maps also highlight those properties that are constrained by floodplains or slopes. Table F on the page following the maps illustrates the above two land capacity scenarios for each of the 8 planning areas, and for the township as a whole. It is important to note that Planning Area 2, the Wilmington Pike Commercial Corridor, contains the only land with some development potential that is currently zoned for commercial and office uses. The area is also the primary area where the comprehensive development plan recommends the future development of nonresidential uses.

MAP 9: LAND CAPACITY AS ZONED



MAP 10: LAND CAPACITY AS PLANNED





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Table E: Residential Land Capacity Analysis (Housing Units)

Area	Potential Development Area* (Acres)	Land Capacity Under Current Zoning (Units)	Capacity as Planned (Units)
Planning Area 1: Northcentral Sugarcreek	846	814	1,139
Planning Area 2: Wilmington Pike Commercial Corridor	96.6	All acreage is planned and zoned for nonresidential uses	
Planning Area 3: Sugarcreek Reserve	146.2	50	144
Planning Area 4: Southern Sugarcreek	4,331	801	700
Planning Area 5: Berryhill	270.8	46	40
Planning Area 6: Little Miami Corridor	683.1	121	0
Planning Area 7: Eastern Sugarcreek	1,399.6	250	183
Planning Area 8: South Alpha Bellbrook	1,034.8	353	757
Sugarcreek Township Total	8,808.1	2,435	2,963
* The potential development area is the total area of land used for agricultural uses, undeveloped properties, and residential properties in excess of 10 acres (5 acres if access to sewer). This analysis is for planning purposes only and does not assume that all properties will develop or will sell for development. The analysis does not take into account private deed restrictions that may limit development.			

As described in the residential land demand section (pages 17 and 18), it is evident that land in the township is currently zoned in such a way as to be able to theoretically accommodate the forecasted 720 new homes by 2030. This is the case even if the township assumes that no development will occur in the floodplain or on steep slopes (Land Capacity under Current Trends). However, this would require that a large portion of the land in the township would have to be developed rather than encouraging increased densities in the north while protecting, to the maximum extent possible, the more rural areas to the east and south as envisioned by the planning recommendations (Land Capacity as Planned).

By increasing the land capacity for development in the north, where adequate services are available, the pressure to develop the rural properties in the south will be reduced. Whereas if the ability to develop land in the north is limited, there will be more pressure to subdivide rural properties to meet the projected demand for housing.

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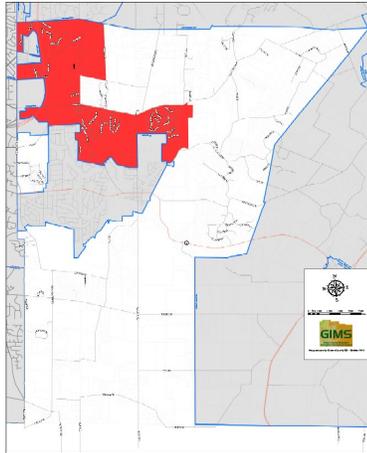
Overall Township Goals

To be meaningful, the Sugarcreek Township Long-Range Land Use Plan must be based on the desires and vision of the township's citizens. Based on discussions with the advisory group charged with updating the comprehensive development plan, it was determined that the overall goals for the plan have not changed since the development of the 2007 plan. For this reason, the following goals continue to guide this plan, and the township, in developing the vision for the future of the community.

- Retain the rural character of the township;
- Manage the pace and quality of future development within the township in accord with the goals of this plan;
- Protect key assets within the township;
- Retain viable agriculture within the township;
- Provide viable and continuing strategies for preserving open space;
- Manage transportation demands and conflicts;
- Provide criteria and guidance for the future infrastructure development;
- Provide protection of important environmental resources;
- Plan for recreational areas; and
- Protect the geographic boundaries of the township.



Planning Area 1: Northcentral Sugarcreek



Existing Conditions

- The Northcentral Sugarcreek Planning Area is located in the northcentral portion of the township, encompassing areas both east and west of I-675 and north of the City of Bellbrook. The northwest portion of this planning area has been significantly affected by annexation since the 2001 plan. Both the cities of Kettering and Centerville have annexed large areas of this planning area, essentially creating three small sub-areas west of the interstate. This planning area also consists of a large sub-area of land east of I-675 west of Carpenter Road and east past the Kable’s Mill subdivision. This is an area of the township that has seen the most residential growth over the last decade and which is experiencing the biggest development pressures due to the area’s proximity to Beavercreek, Bellbrook and the interstate.
- The township has maintained the existing commercial center southeast of the Wilmington Pike and Feedwire Road intersection while the City of Centerville has annexed almost 270 acres of land to the north and south of this intersection and the City of Kettering has annexed 112 acres along Swigart Road, just west of I-675.
- This portion of this planning area west of I-675 is almost completely built out with only a few small parcels still considered to have some development potential in the far northwestern corner of the planning area.
- The portion of this planning area east of I-675 is characterized by a number of large parcels, the largest of which is the 247 acres acquired by the Park District in 2013.
- A majority of the planning area has sufficient access to both water and sewer service.

PLANNING AREA SYNOPSIS

Total Land Area

2202 Acres

13.6% of Sugarcreek Township

Existing Land Use

Agriculture or Undeveloped –
38.4%

Single-Family Residential on 5
to 10 Acres–6.2%%

Single-Family Residential on 1
to 4.99 Acres–9.8%

Single-Family Residential on
Less than 1 Acre–21.4%

Commercial –1.2%

Parks and Recreational–11.4%

Private Recreational–3.2%

Public/Institutional–6.0%

Single-Family Open Space–
2.4%

Undeveloped Land Capacity

814 units as zoned

1139 units as planned

Planning Area Recommendations

- The existing commercial land uses at the intersection of Wilmington Pike and Feedwire Road should be maintained.
- Portions of this planning area adjacent to an incorporated area or adjacent to public land adjacent to an incorporated area are priority areas for Planned Residential Development, with densities to be determined on a case by case basis by the Zoning Commission and Township Trustees.
- Portions of the planning area not adjacent to an incorporated area or adjacent to public land adjacent to an incorporated area should be used for single-family detached residential uses at a gross density not to exceed 1.0 dwelling unit per acre. Developments with a maximum gross density of two units per acre may be considered in the remainder of the planning area only if the developer utilizes the planned

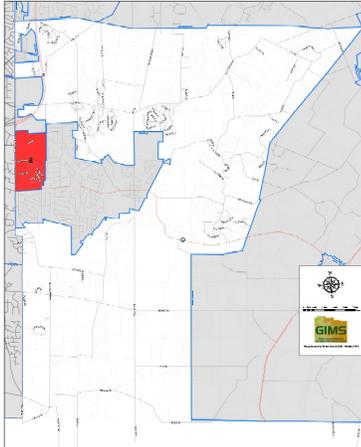


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development process in the development of a conservation subdivision.

- Parks, recreational uses, and large public/institutional uses or structures are also appropriate in this planning area due to the high density of development.
- Should the recreational properties along the north side of Brown Road (east of I-675) be redeveloped, planned small-scale office uses defined by pitched roofs, compatible building materials and scale to that of the adjacent residential uses is also appropriate. Further consideration for the adjacent residential uses to the east will be required by way of screening and buffering.
- Should the land along the Clyo Road corridor be developed or redeveloped, planned mixed use development is appropriate. Planned commercial development compatible in design and scale is encouraged. Multi-family development, with an emphasis on unique development and architectural design characteristics, may be permitted on a limited basis as part of an overall development plan.
- Should the land at the southeast corner of Swigart and Little Sugarcreek Roads be developed, planned mixed use development incorporating senior housing in a campus-style environment and developed according to an overall unified development plan may be appropriate. The incorporation of unrelated retail uses, unrelated office uses and similar unrelated commercial uses would not be appropriate.
- Planned neighborhood retail/service uses may be appropriate at the southwest corner of the Feedwire/Upper Bellbrook Road intersection. These uses should be non-regional, no 24-hour service, and of a pedestrian scale in a campus/village/town center environment. Focus should be placed on the creation of an identity for development on the intersection (lights, signs, landscaping, and materials). A proper buffer/transition from the commercial uses to single-family as well as a link to and extension of existing hike and bike trails should be incorporated.
- This area is a priority area for conservation subdivisions characterized by the clustering of lots to preserve 50 percent or more of a site
- The township strongly supports the connectivity plan included in this document and developments in this planning area should incorporate elements of that connectivity plan as applicable.

Planning Area 2: Wilmington Pike Commercial Corridor



Existing Conditions

- The Wilmington Pike Commercial Corridor is the predominant commercial and office area within the township and provides the vast amount of nonresidential land taxes in the entire community. While there is a significant amount of developed land, there are also several large parcels that are currently undeveloped with the existing zoning providing for planned commercial or office uses that could almost double the amount of development in this planning area alone.
- This planning area has benefitted from the extension of Clyo Road to Feedwire Road improving the township’s transportation network and improving access to land identified for planned commercial development.

Planning Area Recommendations

- The principal use of this area should continue to be for commercial and office uses with the commercial uses focused along the frontage of Wilmington Pike and the office uses located along the eastern edge of the planning area (as zoned in 2013).
- Parks, recreational uses, and large public/institutional uses or structures are also appropriate in this planning area due to the high density of development.
- Development within this corridor shall be done in a planned way, with uniform building materials, signage, lighting and landscaping provided.
- Mixed-use developments may be appropriate in this planning area provided that they are developed according to an overall development plan with an emphasis on creating a more vibrant, walkable, economic development. Community gathering areas/destination points shall be included within the overall development.
- Buffering shall be provided between new development and existing adjacent divergent or less restrictive uses. Appropriate transition between existing residential uses and new non-residential development should be provided.

PLANNING AREA SYNOPSIS

Total Land Area

332 Acres

2.1% of Sugarcreek Township

Existing Land Use

Agriculture or Undeveloped – 29.1%

Single-Family Residential Less than 1 Acre –10.4%

Multi-Family Residential – 10.1%

Commercial –34.4%

Office –3.6%

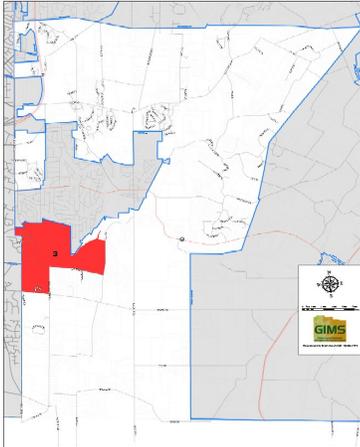
Parks and Recreational – 7.6%

Public or Institutional –4.6%

Undeveloped Land Capacity

93.6 acres of commercial/mixed use

Planning Area 3: Sugarcreek Reserve



Existing Conditions

- The Sugarcreek Reserve Planning Area is largely occupied by the Sugarcreek Reserve Metropark, providing natural areas and equestrian trails for the larger Dayton region. This planning area, along with the park, blends well with the equestrian based agriculture that occurs in the township.
- While there are some small farms located in the area, much of the remainder of the planning area is occupied by a variety of housing ranging from multi-family residential uses to single-family residential uses on large lots.
- Residential uses in the area are located on large road frontage lots, primarily on Wilmington Dayton Road.
- This planning area has access to water services and some limited access to sewer service.

PLANNING AREA SYNOPSIS

Total Land Area

811 Acres

5.0% of Sugarcreek Township

Existing Land Use

Agriculture or Undeveloped – 18.0%

Single-Family Residential on 5 to 10 Acres – 4.5%

Single-Family Residential on 1-.499 Acres – 2.9%

Single-Family Residential on Less than 1 Acre – 3.8%

Multi-Family Residential – 0.6%

Commercial – 0.09%

Parks and Recreational – 69.9%

Public or Institutional – 0.2%

Land Capacity

50 units as zoned

144 units as planned

Planning Area Recommendations

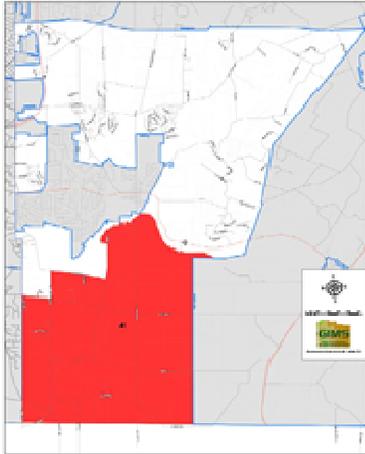
- Portions of this planning area adjacent to an incorporated area or adjacent to public land adjacent to an incorporated area are priority areas for Planned Residential Development, with densities to be determined on a case by case basis by the Zoning Commission and Township Trustees.
- The principal use of the remainder of this planning area should continue to be for agricultural uses or single-family residential uses at a gross density not to exceed one unit per five acres.
- If sewers are accessible to portions of the planning area, not adjacent to an incorporated area or adjacent to public land adjacent to an incorporated area, then the maximum gross density should not exceed one unit per acre where sewer is provided.
- This area is a priority area for conservation subdivisions characterized by the clustering of lots to preserve 50 percent or more of a site.
- Large public/institutional uses or structures are not appropriate in this planning area due to the rural, large lot character of development. Parks and recreational uses with minimal structures may be appropriate if the use maintains the rural character of this planning area.
- Major roadways in the area should be maintained in the current two-lane configuration with minimal improvements made only for safety purposes.
- The township should work with the Five Rivers Metroparks to expand Sugarcreek Reserve.



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- The township strongly supports the connectivity plan included in this document and developments in this planning area should incorporate elements of that connectivity plan as applicable.

Planning Area 4: Southern Sugarcreek



Existing Conditions

- The Southern Sugarcreek Planning Area is the largest agricultural area of the township with the predominant use being active farmland. It is also the location of the township’s administrative offices and the portion of the township’s industrial corridor lying outside of the floodplain.
- Residential uses in the area are located on large road frontage lots, primarily on Ferry Road, Middle Run Road, Sears Road, Wilmington Dayton Road and Social Row Road.
- This planning area has limited access to water and sewer service.

Planning Area Recommendations

- The principal use of this area should be for agricultural uses.
- If development should occur, the principal use should be single-family residential uses at a gross density not to exceed one unit per five acres.
- Large public/institutional uses or structures are not appropriate in this planning area due to the rural, large lot character of development. Parks and recreational uses with minimal structures may be appropriate if the use maintains the rural character of this planning area.
- Should properties within the industrial corridor redevelop, such redevelopment should be taken in accordance with all applicable Zoning Resolution requirements with respect to architectural standards, parking and loading, screening and buffering, landscaping, etc.
- Major roadways in the area should be maintained in the current two-lane configuration with minimal improvements made only for safety purposes.
- This area is a priority area for conservation subdivisions characterized by the clustering of lots to preserve 50 percent or more of a site.
- The township strongly supports the connectivity plan included in this document and developments in this planning area should incorporate elements of that connectivity plan as applicable.
- The township supports the expansion of parkland in this planning area.
- The extension of sewers is unlikely and strongly discouraged in this planning area.

PLANNING AREA SYNOPSIS

Total Land Area

5920 Acres

36.6% of Sugarcreek Township

Existing Land Use

Agriculture or Undeveloped – 73.2%

Single-Family Residential on 5 to 10 Acres – 14.5%

Single-Family Residential on 1-4.99 Acres – 8.6%

Industrial – 0.7%

Parks and Recreational – 1.0%

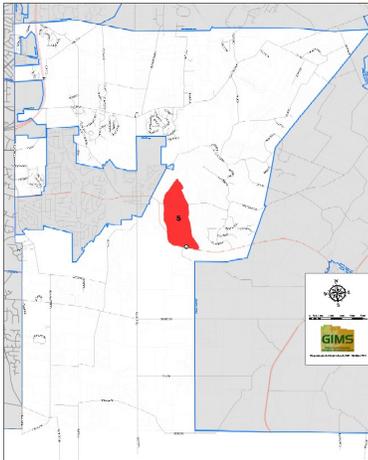
Public or Institutional – 2.0%

Land Capacity

801 units as zoned

700 units as planned

Planning Area 5: Berryhill



Existing Conditions

- The Berryhill Planning Area serves as a high point between the Little Miami River and Sugar Creek, providing very impressive views of the river valley below. This area is completely surrounded by floodplains and is essentially an island, accessed by bridges across the river and creek.
- This area is still predominately used for agricultural uses with only a few property owners given the size of the planning area.
- This planning area does not have access to water or sewer service.

Planning Area Recommendations

- The township would prefer to see this area continued to be used as farmland or remain undeveloped. For this reason, this is an area where the township should actively seek to purchase properties or development rights.
- If development should occur, the principal use should continue to be recreational uses or for single-family residential uses at a gross density not to exceed one unit per five acres.
- Large public/institutional uses or structures are not appropriate in this planning area due to the rural, large lot character of development. Parks and recreational uses with minimal structures may be appropriate if the use maintains the rural character of this planning area.
- If development were to occur, it should be sited or clustered away from the river as much as possible to retain the natural character of the river corridor and to protect the riparian buffer area. At a minimum, there should be an undisturbed area at least 200 feet from the centerline of the river (on both sides) where vegetation should be protected and land disturbance strongly discouraged.
- If development should occur, this area is a priority area for conservation subdivisions where the township strongly encourages the clustering of lots to preserve 50 percent or more of a site. It is preferable that the clustering of lots in this area be done to protect the vistas or viewsheds of the river valley.
- Major roadways in the area should be maintained in the current two-lane configuration with minimal improvements made only for safety purposes.
- The extension of sewers is strongly discouraged in this planning area.

PLANNING AREA SYNOPSIS

Total Land Area

295 Acres

1.8% of Sugar Creek Township

Existing Land Use

Agriculture or Undeveloped – 91.9%

Single-Family Residential on 5 to 10 Acres – 5.3%

Single-Family Residential on 1 to 4.99 Acres – 2.6%

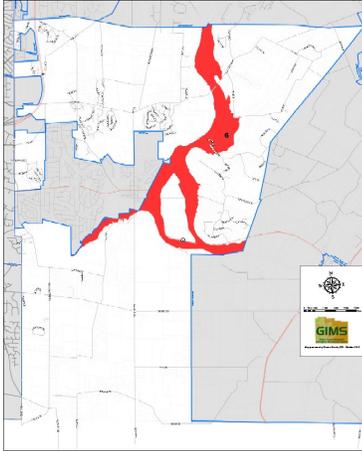
Parks and Recreational – 0.2%

Land Capacity

46 units as zoned

40 units as planned

Planning Area 6: Little Miami Corridor



Existing Conditions

- The Little Miami Corridor Planning Area encompasses the Little Miami River and its 100-year floodplain boundaries. This is one of the most treasured natural resources in the township due to its importance to the ecosystem, recreational use, and beauty.
- There is minimal development in this area due to the presence of the floodplain. Several lots along the river cross into the area but the structures are located in the adjacent planning areas.
- This planning area does not have access to water or sewer service.

Planning Area Recommendations

- As previously described, the Little Miami River has been designated as a Scenic River by the State of Ohio and as a National Wild and Scenic River by the Federal Government, one of only 75 rivers in the nation to receive such designation. Thus, Sugar Creek Township bears a special responsibility in regulating what occurs in this area to ensure that this valuable resource is protected for future generations.
- The principal use of this area should continue to be for agricultural or recreational uses. While residential uses are discouraged due to the floodplain, if development were to occur, it should be limited to single-family residential uses at a gross density not to exceed one unit per five acres. All other uses are inappropriate due to the floodplain.
- This area is NOT a priority area for conservation subdivisions.
- If development were to occur, it should be sited away from the river as much as possible to retain the natural character of the river corridor and to protect the riparian buffer area. At a minimum, there should be an undisturbed area at least 200 feet from the centerline of the streambed (on both sides) where vegetation should be protected and land disturbance strongly discouraged.
- This planning area is an ideal area in which to pursue a policy of public acquisition for open space preservation and/or for recreational uses.
- Major roadways in the area should be maintained in the current two-lane configuration with minimal improvements made only for safety purposes. Bridges constructed across the Little Miami River should be given special design attention to ensure that they blend well into the natural environment.
- The extension of sewers is strongly discouraged in this planning area.
- The township strongly supports the connectivity plan included in this document and developments in this planning area should incorporate elements of that connectivity plan as applicable.

PLANNING AREA SYNOPSIS

Total Land Area

1085 Acres

6.7% of Sugar Creek Township

Existing Land Use

Agriculture or Undeveloped –
62.9%

Single-Family Residential on 5
to 10 Acres – 10%

Single-Family Residential on 1
to 4.99 Acres – 3.5%

Single-Family Residential on
Less than 1 Acre – 0.4%

Industrial – 1.9%

Parks and Recreational –
16.2%

Private Recreational – 2.1%

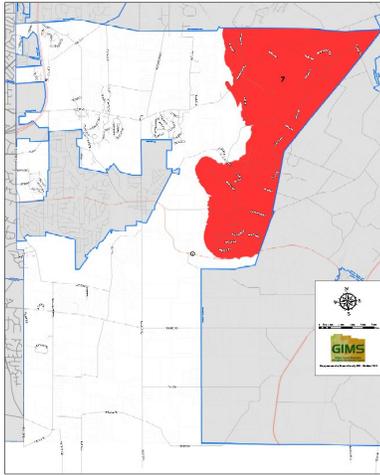
Public or Institutional – 3%

Land Capacity

121 units as zoned

0 units as planned

Planning Area 7: Eastern Sugarcreek



Existing Conditions

- The Eastern Sugarcreek Area is a mixture of farms, large lot subdivisions, and typical small lot residential subdivisions. It is also one of the more scenic planning areas given the topography and long vistas along the Little Miami River. The southern portion of this planning area is characterized by large lot subdivisions and is almost completely built out. A significant amount of the remainder of the land in the southern portion of this planning area is utilized for farming and constrained by steep slopes that will minimize future development.
- This area is predominately used for single-family residential purposes with some small farming operations.
- This planning area has limited access to water but does not have access to sewer service.

PLANNING AREA SYNOPSIS

Total Land Area

3,532 Acres

21.9% of Sugarcreek Township

Existing Land Use

Agriculture or Undeveloped – 39.6%

Single-Family Residential on 5 to 10 Acres – 30.1%

Single-Family Residential on 1 to 4.99 Acres – 24.4%

Single-Family Residential on Less than 1 Acre – 0.2%

Parks and Recreational – 0.7%

Private Recreational – 4.5%

Public/Institutional – 0.5%

Land Capacity

250 units as zoned

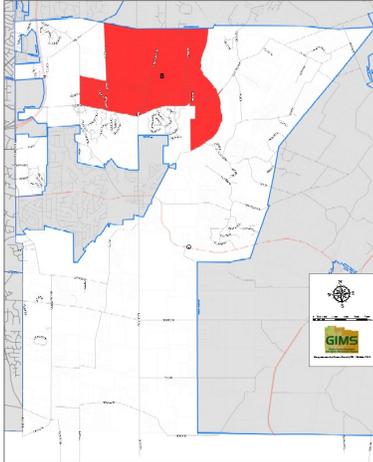
183 units as planned

Planning Area Recommendations

- The principal use of this area should continue to be for agricultural uses or single-family residential uses at a gross density not to exceed one unit per five acres.
- Large public/institutional uses or structures are not appropriate in this planning area due to the rural, large lot character of development. Parks and recreational uses with minimal structures may be appropriate if the use maintains the rural character of this planning area.
- This area is NOT a priority area for conservation subdivisions.
- Development should be sited away from the roadway as much as possible to retain the rural character of the area.
- Major roadways in the area should be maintained in the current two-lane configuration with minimal improvements made only for safety purposes.
- The extension of sewers is strongly discouraged in this planning area.



Planning Area 8: Eastern Sugar Creek



Existing Conditions

- The South Alpha Bellbrook planning area serves as the transition area between the portion of the township that is witnessing the most development with the most access to public water and sewer to the more rural areas of the township with minimal access to utility service.
- A significant portion of this area is developed for residential uses on large lots but there are also a large number of farms located east of South Alpha Bellbrook Road and north of Carpenter Road. This planning area has access to water services and some limited access to sewer service.

Planning Area Recommendations

- The principal use of this area should continue to be for agricultural uses or single-family residential uses at a gross density not to exceed one unit per five acres or one unit per 2.5 acres if zoned as such in 2013.
- Large public/institutional uses or structures are not appropriate in this planning area due to the rural, large lot character of development. Parks and recreational uses with minimal structures may be appropriate if the use maintains the rural character of this planning area.
- If sewers are introduced to the planning area, or portions of the planning area, the maximum gross density should not exceed one unit per acre where sewer is provided.
- This area is a priority area for conservation subdivisions characterized by the clustering of lots to preserve 50 percent or more of a site.
- Development should be sited or clustered away from the roadway as much as possible to retain the rural character of the area.
- Major roadways in the area should be maintained in the current two-lane configuration with minimal improvements made only for safety purposes.
- The township strongly supports the connectivity plan included in this document and developments in this planning area should incorporate elements of that connectivity plan as applicable.
- The extension of sewers is strongly discouraged in this planning area.



PLANNING AREA SYNOPSIS

Total Land Area

1,986 Acres

12.3% of Sugar Creek Township

Existing Land Use

Agriculture or Undeveloped – 52.0%

Single-Family Residential on 5 to 10 Acres – 23.8%

Single-Family Residential on 1 to 4.99 Acres – 11.7%

Single-Family Residential on Less than 1 Acre – 3.4%

Parks and Recreational – 1.6%

Public or Institutional – 7.5%

Land Capacity

353 units as zoned

757 units as planned



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Table F: Planning Area Makeup Quick Reference

Planning Area	Total Area	% of Twp.	Agriculture/ Undeveloped	SFR*	MFR	Commercial	Parks and Recreation	Private Recreation	Public/ Institutional
Planning Area 1: North Central Sugarcreek	2,202 acres	13.6%	38.4%	39.8%	0%	1.2%	11.4%	3.2%	6.0%
Planning Area 2: Wilmington Pike Commercial Corridor	332 acres	2.1%	29.1%	10.4%	10%	34.4%	7.6%	0%	4.6%
Planning Area 3: Sugarcreek Reserve	811 acres	5%	18.0%	11.2%	0.6%	0.09%	69.9%	0%	0.2%
Planning Area 4: Southern Sugarcreek	5,920 acres	36.6%	73.2%	23.1%	0%	0.7%**	1.0%	0%	2%
Planning Area 5: Berryhill	295 acres	1.8%	91.9%	7.9%	0%	0%	0.2%	0%	0%
Planning Area 6: Little Miami Corridor	1,085 acres	6.7%	62.9%	13.9%	0%	1.9%**	16.2%	2.1%	3%
Planning Area 7: Eastern Sugarcreek	3,532 acres	21.9%	39.6%	54.7%	0%	0%	0.7%	4.5%	0.5%
Planning Area 8: South Alpha Bellbrook	1,986 acres	12.3%	52.0%	38.9%	0%	0%	1.6%	0%	7.5%

* Inclusive of all Single-Family Residential classifications (Single-Family Residential on 5-10 Acres, Single-Family Residential on 1 to 4.99 Acres, Single Family on Less than 1 Acre and Single-Family Open Space)
 ** Denotes Industrial Use.

Public Facilities Plan

Transportation

Map 11 on the following page illustrates the transportation improvements that are currently included in MVRPC's long-range transportation plan detailed in the Planning Foundation section of this plan. Beyond these improvements, the township maintains two distinct roles in planning for the future of the transportation network. First, the township must maintain a high level of communication with the county, MVRPC, and state to ensure that the township is represented when decisions and plans are made for transportation improvements. With limited ability and funds to make improvements itself, the township should take on the role of lobbyist when it comes to larger scale transportation improvements. The second role the township has is reviewing and making recommendations or decisions on the layout of new local roads that will fall under the jurisdiction of the township. While the formal approval of subdivisions happens at the County level, Sugarcreek Board of Zoning Commission and Township Trustees do have authority over the layout of roads in planned developments. In these cases, the township should be proactive at encouraging connectivity both with roads and with sidewalks and trails. The township has the ability, through zoning and the planned development process, to require that large developments share one or more road connections and even require that trails and paths be connected. This ensures that there is a redundancy in the transportation network that is a starting point for minimizing traffic congestion caused by suburban growth.

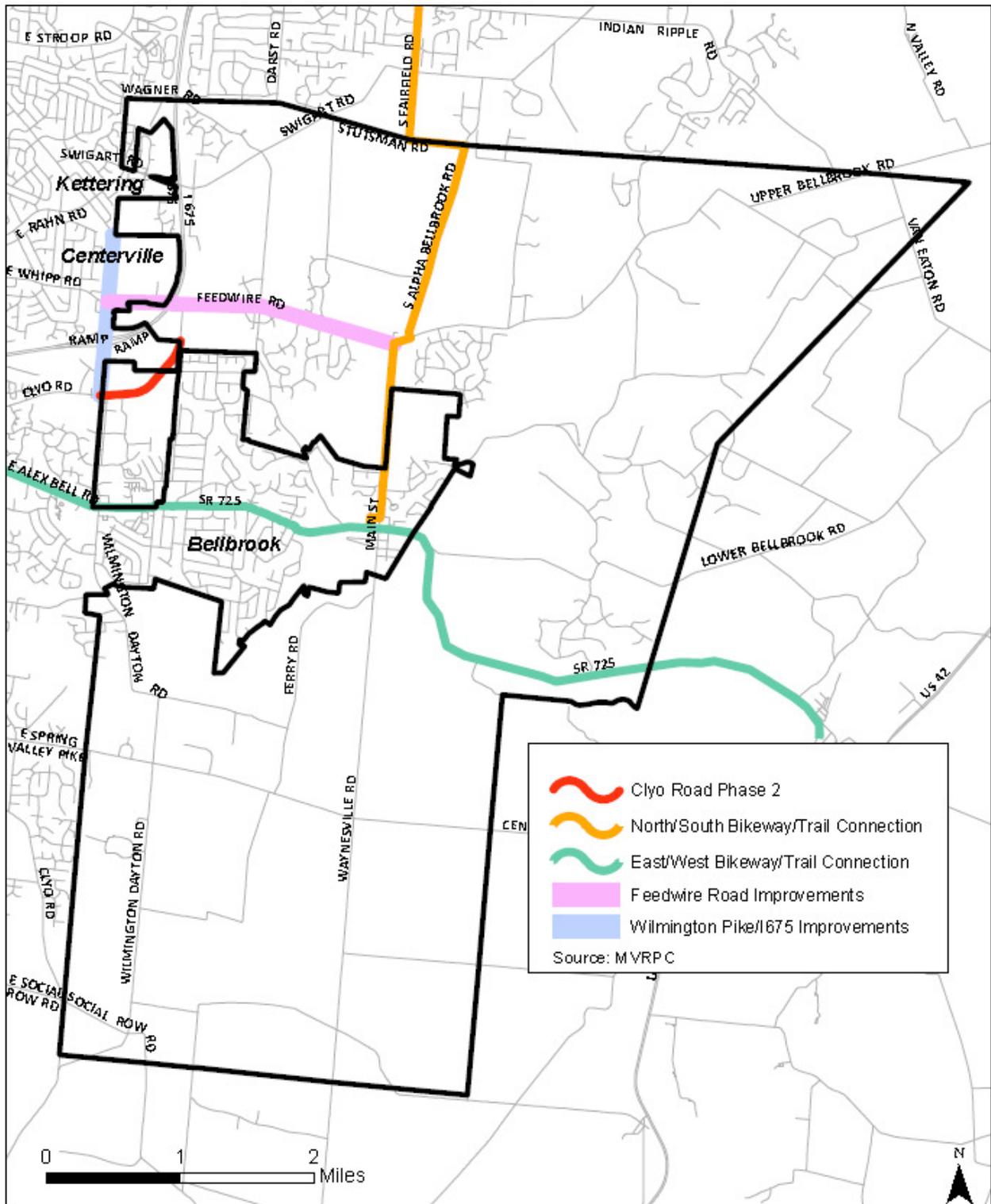


Other specific actions the township should take as part of this plan, as it relates to public facilities planning, are as follows:

- The township should support efforts to improve the I-675/Wilmington Pike interchange to increase the capacity of Wilmington Pike and the existing I-675 ramps. The township should also support existing plans to widen Feedwire Road.



MAP 11: PUBLIC FACILITIES PLAN



- The township should, along with the county, investigate ways to construct a bicycle facility that can be connected to the Little Miami Scenic Trail, which passes through Spring Valley Township. This state facility will ultimately extend from Cincinnati to Cleveland. Currently planning activities focus on connecting areas around Bellbrook north to Beavercreek and west toward Centerville.
- As part of this plan update, an evaluation of the township's overall connectivity goals was completed. The township strongly supports the connectivity plan included in this document and developments should incorporate elements of that connectivity plan as applicable.
- Through zoning, the township can minimize the number of driveway/curb cuts created by both residential and nonresidential uses. It is a well-established principle of traffic engineering that multiple access points onto a roadway both degrades its traffic-carrying capacity and increases safety hazards. Shared access points should be encouraged or required wherever possible.
- Special attention should be given to the design of any bridges constructed crossing the Little Miami River. Rather than the typical concrete pier construction, arched stone faced structures should be considered.

Parks

Parks and recreational uses are important to the community as a whole. In 1974, the City of Bellbrook and Sugar Creek Township established a joint Bellbrook-Sugar Creek Township Park District which owns and/or manages several parks in the township along with assisting in planning for the future of parks in the community. At this time, the park district owns or manages 430 acres, currently divided into thirteen parks in Sugar Creek Township and the City of Bellbrook:



Parks are often one of the key factors in what draws people to an area. A good park district provides a variety of recreational activities for the community and, in the case of Sugar Creek Township, this service is provided by the city, township, county, and the Five Rivers Metroparks (which owns and maintains Sugar Creek Reserve). These agencies are in the best position to plan for the proper location and individual uses of new parks and thus a key recommendation of this plan is to continue to coordinate and participate in these agencies' various park planning efforts. However, in an effort to provide a more quantitative goal for parks and recreation, this plan recommends that the township should strive to meet the national standards of ten acres of neighborhood and community park land for every 1,000 residents. With the current 430 acres of parks operated by the local park district, the township and city currently exceed this standard which many other communities have struggled to achieve. As the township and city continue to grow, it will be important to also continue to acquire and develop new park land to support that growth.

Township Facilities

Currently, the township has long-range plans to develop a new fire station at the intersection of Waynesville Road and Centerville Road to provide better response times to the southern areas of the township. The township continues to plan and expand for service as necessary to accommodate growth. The recommendations of this plan will help guide the township in deciding where new services such as fire stations should be located in anticipation of the planned growth.



IMPLEMENTATION STRATEGIES

As Sugar Creek Township continues to look toward the future, there is a continued need to look at capitalizing on land serviced by infrastructure and protecting the natural resources that are part of the community's identity. Focusing on the strategies where the township has the most authority will increase the ability of the township to plan for and incorporate the recommendations of this plan.

The purpose of this section of the plan is to provide a description of potentially suitable techniques for implementing this long-range land use plan.

Monitoring the Long-Range Land Use Plan

A comprehensive development plan is a long-term visionary document that looks at a planning horizon of 20 years or more. This does not mean that the township should wait 20 years before reviewing and/or updating the plan. In fact, it is highly recommended that the



township review the plan, in moderate detail, at least every five years due to the fact that major changes in infrastructure, the transportation system, development methods, and even changes in elected officials, state law or other regulations can have a significant impact on the recommendations of this plan. It may not be necessary to go through a long and intensive review process, but the township should take steps to involve the public in this review process to ensure that the goals and objectives are still relevant. The review should also identify major changes in infrastructure, transportation and trends that may change the recommendations of this plan.

Involve the Public

Sugar Creek Township should consistently involve the public in every affair of the township whether it is input for this long-range land use plan or guidance on the design of new public buildings. Elected and appointed officials of the township, as well as hired staff, are responsible for a large population and public input helps assure that decisions are made in the best interest of those citizens. As the township continues to grow, public input will be a key ingredient in the process.

Committees

During the creation of the original 2001 plan and the subsequent updates, the township utilized review committees to help work through issues and serve as a sounding board beyond the already established Board of Zoning Commission and Board of Trustees. These committees, which are often short-term to serve a particular purpose, are very useful at involving as many of the residents as possible in township government. For Sugar Creek Township, the best resource is to utilize committees wherever a special need or purpose arises that cannot be addressed by zoning alone.

Coordination and Communication

This plan recognizes that agencies outside of the township regulate many elements of the community including sewers, water, transportation, and stormwater. In fact, the township is restricted in its



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participation in the subdivision review (not zoning) process, which is under the purview of the Greene County Regional Planning and Coordinating Commission. With so many agencies working in Sugar Creek Township, the township has the ability to serve as a coordinator and identify ways to make improvements in the community that will be more efficient and benefit the entire region. One of the simplest strategies for implementing many of the recommendations is to communicate with the appropriate agencies, inside and outside of the township, and inform them of township policy and the needs of the community.

General Amendment Process

Modification refers only to the Long-Range Land Use Plan and would include any change to any Long-Range Land Use Plan map or text.

The submission of an application to amend the Zoning Resolution that would result in a conflict with the Long-Range Land Use Plan shall concurrently initiate a modification to the Long-Range Land Use Plan. If an amendment to the Zoning Resolution not in conformity with the Long-Range Land Use Plan is approved, that approval shall be considered a modification to the Long-Range Land Use Plan.

If a modification to the Long-Range Land Use Plan is proposed independent of an amendment to the Zoning Resolution, the requested modification shall be placed on the agenda of the Township Zoning Commission. Notice of the Zoning Commission Meeting shall be posted on the township's website. Within thirty (30) days after the completion of the meeting, the Zoning Commission shall provide its recommendation concerning the proposed modification to the Township Trustees. Within fourteen (14) days after the receipt of the Zoning Commission recommendation, the requested modification shall be placed on the agenda of the Township Trustees. The consideration of the requested modification shall occur within (30) days of the receipt of the Zoning Commission recommendation. Notice of that Trustee Meeting shall be posted on the township's website not less than ten (10) days prior to the meeting. Within twenty (20) days after the completion of the meeting, the Trustees shall vote to accept, reject or modify the recommendation of the Township Zoning Commission.

A copy of the approved Long-Range Land Use Plan, as well as any approved modifications, shall be submitted to the Greene County Regional Planning and Coordinating Commission for incorporation into the Greene County Land Use Plan.

Zoning Amendments

Along with plans themselves, zoning is the most basic of all planning tools used by Sugar Creek Township. Zoning can be used to accomplish the following:

- Promote economic development by concentrating commercial and industrial properties in particular areas of the township. This concentration can help to prevent the overburdening of the market that can then work towards lowering vacancy rates and promoting the commercial or industrial core of the community. By concentrating uses such as commercial businesses together, zoning can help guide these developments into areas of the township best suited for the use because of adequate public facilities and infrastructure.
- Encourage compact development with higher densities in areas served by infrastructure while discouraging development in areas with limited services.



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- Create overlay districts to protect special areas or add more standards to an area where there are multiple underlying zoning districts. For example, the township has considered an overlay district to protect the riparian corridor along the Little Miami River that would require special setbacks and vegetation protection within a certain distance of the river, regardless of the underlying zoning district.
- Protect existing residential neighborhoods by controlling densities and restricting the conversion of single-family homes into multi-family units or nonresidential businesses where such conversions are not desired.
- Make sure the relationship between the district's purpose and intent statements reflect the function and uses permitted in the district.
- Require appropriate analyses for large public and institutional uses locating within residential neighborhoods so as to mitigate traffic, light, noise, and other impacts. This may be accomplished by developing a new district specifically for large uses that establish the minimum requirements including special buffers and a mandatory traffic impact study.
- Separate incompatible uses with transitional zoning. An example of transitional zoning would be zoning land located between large commercial uses and residential homes for small-scale office space or multi-family residential uses.
- Require landscaping, signage, lighting, and adequate parking that will help improve the visual appearance of an area.
- Create various levels of regulations from general to specific based on what the township and public wants for the community. General regulations may include standard requirements for lot area, lot width, or building height requirements. Other requirements for parking, landscaping, lighting and signage may address the impact a use has on the community.

Communities are also using zoning as a method of encouraging appropriate development and redevelopment by moving more toward incentive-based zoning. In cases such as a planned unit development or in parking standards, the township could provide clear standards for increased densities or a waiver of certain standards if an applicant meets certain criteria. For example, the township could provide a certain percentage increase in housing density if a developer dedicates a neighborhood park within a housing development. Another example is if a developer places some of the required parking in the side or rear yards of a commercial development, the landscaping requirements may be reduced because the parking is less visible and it will force the building closer to the street. These are just a few examples of how incentives can work as a benefit for both the township and future developers and redevelopers of future uses.

In all zoning decisions, the township should be guided by the desire to create a community set apart from others for its emphasis on quality, design and preservation of the natural environment.

Emphasis on Economic Development and Identity

It is the desire of the township to promote quality, progressive, innovative, verdant and environmentally responsible developments that will survive the test of time and set a standard for the region. Economic development refers to the ongoing process of improving and maintaining a strong economic balance in the



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township. This can be accomplished primarily through the retention and improvement of existing businesses and a focus on providing an attractive community for clean industries, corporate offices, and strong retailers.

The continued revitalization of older retail, office and industrial areas will have a significant impact on the future of the township. Within this plan, the township recognizes the responsibility to, and economic significance of, attracting new industrial users to areas of the township identified for industrial redevelopment. At the same time, the township understands that the redevelopment of older retail and office areas provides a number of opportunities to address issues such as walkability, building design, signage and landscaping that will help to refine the identity of Sugar Creek Township. An emphasis on economic development also calls for increased attention to the economic contribution of the agricultural sector and identifying ways to allow this sector to continue to adapt in order to maintain the rural character of the township, particularly in southern Sugar Creek where agriculture is still prevalent.

The Wilmington Pike Commercial Corridor, serving as the gateway into the township from I-675, is often the only area some people see when visiting Sugar Creek Township. This corridor has become a cornerstone of the township and this plan identifies that it should remain the primary focus of retail and office activity. When the Zoning Resolution was revised in 2007, architectural standards were added, as were increased landscaping, screening and buffering and signage standards. As redevelopment occurs, these increased standards will serve to promote Sugar Creek Township as a well-planned area that will ultimately encourage investment in the community and refine our identity.

Meetings with the township early in the development process are encouraged. Sugar Creek Township has the experience and professional expertise to assist the design of new retail, office and mixed use developments on undeveloped parcels of land planned for such uses. In partnership with property owners, the township will leverage its knowledge of the community and prior development patterns to create attractive investment opportunities.

The township should take the following steps:

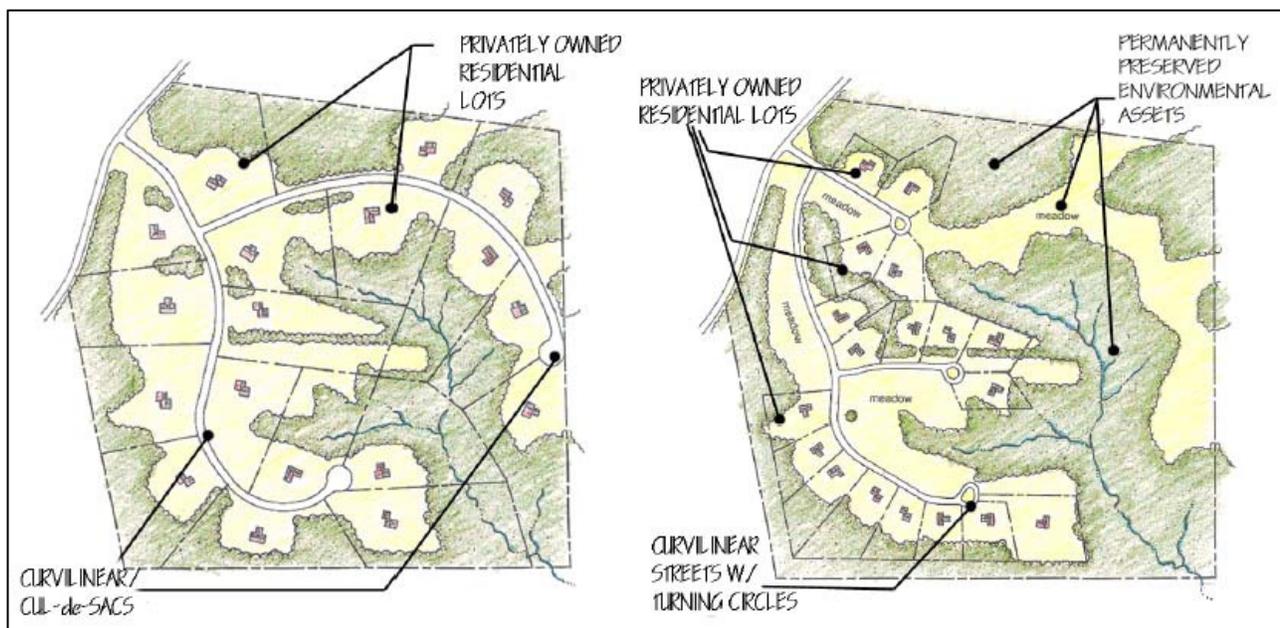
- Promote the creation of physical structures and spacial environments that attract people;
- Encourage well-designed mixed-use developments that meet community needs;
- Support the creation and expansion of efficient pedestrian-friendly connectivity throughout the township;
- Promote the incorporation and preservation of natural features within retail, office and industrial developments as appropriate;
- Work to enhance our community identity through the utilization of increased design standards and active promotion;
- Encourage the revitalization of existing retail, office and industrial areas;
- Promote quality redevelopment projects that are consistent with the goals of Sugar Creek Township; and
- Continue to provide a forum for the marketing of local agricultural products and work to expand the use of the Farmers' Market as a source of community identity and pride.

Conservation Subdivisions

Unlike typical residential subdivisions, which will normally consume the entire development parcel, conservation subdivisions rearrange and cluster housing lots, housing units, and roadways so as to set aside a substantial amount of the otherwise buildable property as permanently protected, quality greenspace. Typically, this approach trades a pattern of large suburban lawns with little or no usable neighborhood open space for more compact yards, supplemented by extensive open space flowing through the development. This open space is retained in perpetuity as greenways, trails, woodlands, pastures, or other uses that maintain scenic character, protect habitat value, and contribute to the quality of life for residents of the entire township. When properly planned, greenspace in conservation developments can become part of an interconnected township or region-wide greenspace network. The image below illustrates the concept of a conservation subdivision. The important thing to note about conservation subdivisions is that while the lots for each individual home may be smaller, there are still the same number of homes on the overall development site, maintaining the density of development regardless if it is subdivided as allowed by the basic zoning requirements (typical subdivision) or if developed as a conservation subdivision.

Typical Subdivision

Conservation Subdivision



The township revised its Zoning Resolution in 2007 to incorporate a Conservation Subdivision district. The township should continue to educate developers about the benefits of conservation development and should encourage the use of this innovative development tool, especially in the areas for which conservation development has been established as a priority.

Low Impact Development

Traditionally, stormwater management has involved the rapid conveyance of water to an engineered pond or surface water body. Low Impact Development (LID) is an innovative stormwater management approach that manages rainfall





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where it lands by modifying developments to try to maintain some natural hydrologic function. The goal is to mimic a site's predevelopment landscape by using site design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. Low impact development encourages the use of small, cost-effective management practices on each individual lot.

Almost all components of the developed environment have the potential to serve as a management practice. This includes open space, rooftops, streetscapes, parking lots, sidewalks, driveways and medians. LID is a versatile approach that can be applied equally well to new development, redevelopment, and commercial and industrial projects. Some management practices associated with LID include:

- Infiltration of rainwater through vegetated trenches and basins with some filtration devices;
- Landscaping methods that include rain gardens, bio swales, and native vegetation;
- On-site capture and storage of rainwater;
- Minimization of impervious area by using narrower streets, porous pavement, concave medians, and landscaped traffic-calming areas; and
- Protecting and restoring soil quality by minimizing land disturbing activities and avoiding compaction, and by increasing organic matter content through the use of compost application and strategic use of native vegetation.

Rain Barrels are designed to hold rainwater collected from residential rooftops. Water is retained in the barrel and can be used for yard watering of vegetation. The barrels are designed with overflow options to allow water to infiltrate beneath the barrel or be redirected to such features as a rain garden.

Rain Gardens are shallow depression areas planted with native vegetation that absorb and infiltrate runoff from impervious surfaces, and which may discharge to groundwater, a storm drain, or surface outlet. Depending on site conditions, a sub-grade tile system may be recommended to enhance infiltration, especially where a high water table exists. Rain gardens reduce the volume of stormwater runoff pollutant loads delivered to surface water. Rain gardens can be used on individual lots, no matter what the use is, to mitigate impervious surface runoff.

Bioswales are vegetated swales which are an alternative to standard below ground storm water sewers. They intercept or receive impervious surface runoff and blend infiltration with slow conveyance of storm water. The soil matrix of the swale can be amended to enhance infiltration and percolation. These systems can be engineered to absorb the high frequency, low intensity storms but can convey the large storm events while providing vegetative filtering. Bioswales can discharge to groundwater, storm sewer intakes, or directly to surface water.

Permeable Paving Alternative surfaces are those surfaces that provide reduced site runoff by increasing infiltration into the soil. There are a number of permeable paving surfaces available from paver blocks to geoweb reinforced glass surfaces. These systems can be designed to infiltrate virtually all design storms including the 100-year storm, or they can be used strategically with impervious surfaces to capture the high frequency, low intensity storms.

Low Impact Grading is among the most harmful development practices to site grading. Grading is the process of clearing the site of vegetation and redefining the land's topography. Grading is harmful because



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it reduces species habitat by clearing vegetation and reduces water quality by introducing sediment into local bodies of water. It also compacts soil (increasing imperviousness) and damages root systems. Techniques such as minimizing disturbance and the grading footprint can reduce the impacts on a site caused by grading.

Benefits to Using Low Impact Development Techniques

Low Impact Development principals have many benefits and advantages over conventional development, including:

- Enhancing the local environment and protecting public health while saving developers' and local governments' time and money;
- Addressing nonpoint source pollution and stormwater management regulatory challenges in a simple and economical manner;
- Protecting surface water and groundwater from the impacts of runoff and groundwater contamination that can come from neighborhoods;
- Helping to better balance conservation, growth, and economic development objectives by having more effective and flexible technology choices;
- Reducing stormwater conveyance and management infrastructure and the associated construction, maintenance and enforcement costs;
- Reducing water pollution and improving wildlife habitat more effectively than conventional best management practices (BMPs) because LID uses multiple systems;
- Using technologies that universally apply to greenfields, brownfields, and redevelopment;
- Enjoying increased quality of life, fiscal stability, reduced air pollution, water conservation, better habitat protection, and increased property values.

Sugarcreek Township can take the following steps to pave the way for the utilization of Low Impact Development techniques:

- Evaluate the Zoning Resolution and how it addresses water resources in order to identify areas that should be changed;
- Work with Greene County Regional Planning to evaluate how subdivision regulations can be altered to allow innovative LID site design techniques; and
- Encourage developers to use LID techniques in our community.